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DIESEL RAILWAY TRACTION SUPPLEMENT

The December issue of THE RAILWAY GAZETTE Supplement, illustrating and describing developments in Diesel Railway Traction, is now ready, price 1s.

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DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders No. 1190 of 1940

Railway Agreement (Powers) Bill

ON November 26, as was briefly recorded in THE RAILWAY GAZETTE last week, the Minister of Transport introduced in the House of Commons the Railway Agreement (Powers) Bill. The Bill enables the railway undertakings, which since the outbreak of war have been under Government control, to make agreements with the Minister of Transport and with one another covering financial matters which arise under that control, notwithstanding any previous statutory limitations of their powers to do so. The new measure provides that the Minister may by Order suspend the pooling scheme established under section 31 of the London Passenger Transport Act, 1933, and it is stipulated that an Order made under this section shall be laid before Parliament, and be effective unless either House, within forty days, by resolution annuls it. The necessity for the Bill arises from the financial agreement between the Government and the railways, the main heads of which were made public in February last. Since then the agreement has been drafted in detail with the exception of the clause relating to compensation for war damage. As was made clear by the Minister of Transport in the House of Commons on November 13, this clause has to be redrafted because of the decision of the Government that the railway companies are to participate in the national war damage insurance scheme. Under the original heads of the agreement the companies were to be permitted to charge up to £10,000,000 of war damage in any one year against the pool of expenses and revenue. Details of the national scheme have not been settled and it has been necessary to delay publication of the full terms of the financial agreement until this has been done. The new Bill will overcome any technical difficulties which may arise from statutory restrictions on the railways and the London Passenger Transport Board in implementing details of the agreement.

* * * *

Rail Charges and Steel Prices

During the controversy which raged around the proposals to effect a further increase on railway charges—as from the beginning of this month the general level has been raised to 16½ per cent. above that ruling at the outbreak of war—it was frequently alleged that advances in railway charges were the cause of higher commodity prices. In this connection it is not without interest to analyse the manner in which railway charges, as compared with the price of certain representative steel products and the cost of living, have risen. For convenience September 1, 1939, the last full working day before the outbreak of war, has been taken as the standard basis. If one assumes that railway charges and steel prices on September 1, 1939, were equal to 100, the index figure of season and workmen's tickets on November 1, 1940, would be 110 and, because the latest increase in railway charges does not apply to this category of tickets it would also be 110 on December 1, 1940. Other railway charges, for which the index on November 1, 1940, would be 110, have risen by December 1 to 116½. The index of steel rails had risen by November 1 to 159; for angles on that date it was 152; for heavy plates 158; and for billets it was 164. It may be noted too that the cost of living, taking September 1, 1939, as 100, had risen to 124 by November 1. It is clear, therefore, that it cannot be said that railway charges have caused these increases in the price of steel or in the cost of living. Whether the egg or the hen came first is a popular conundrum, but the foregoing figures leave room for no such doubt.

* * * *

G.W.R. Acquisition of W.C. & P.R. Assets

Some little time ago the affairs of the Weston, Clevedon, & Portishead Light Railway came before the Court of Chancery, and all traffic on this line was discontinued on May 18 last. This undertaking was not one of those included in the Railway Control Order of September 1, 1939, under which the Minister of Transport took control of the main railway systems of Great Britain. More recently the interest of the principal creditor in the W.C. & P.R. was acquired by the Great Western Railway, including the right to take possession of the line, and the latter took over the whole

of the locomotive and passenger stock, which comprised five locomotives, one 50-h.p. petrol motor coach (which had been acquired from the Southern Railway), one 25-h.p. Drewry 4-wheel petrol motor coach, one 4-wheel trailer coach for attachment to the Drewry car, three 8-wheel coaches of American type with diamond framed bogies, eleven 4-wheel coaches (which had been acquired from the L.S.W.R. and the Metropolitan Railway), 27 open goods wagons, a covered goods van, a goods brake van, a 4-wheel carriage truck, and a 6-wheel machinery wagon. A Fordson rail tractor was also taken over. The whole of the coaching and wagon stock has been condemned, as well as three of the five locomotives, but the two largest engines, namely, the old W.C. & P.R. No. 2 (now G.W.R. No. 5) and No. 4 (now G.W.R. No. 6) have been retained and repaired for further service. Both are 0-6-0 tank engines. No. 2 is a Stroudley "Terrier" of the former L.B.S.C.R. on which it was No. 43, *Gipsy Hill*. This engine was built at Brighton works in 1877. It was renumbered 643, and was rebuilt at Brighton, with an extended smokebox, in 1919. It was purchased by the W.C. & P.R. from the Southern Railway in 1926, to replace No. 2 *Portishead*, whose name and number it took over. It still retains its name. No. 4 (now G.W.R. No. 6) is another of the Stroudley "Terriers," originally No. 53, *Ashstead*. It was built at Brighton works in 1875, was renumbered 653 in 1912, and later became S.R. No. 2653. This engine was acquired by the W.C. & P.R. in 1937.

* * *

Nationalisation of Railways in Argentina?

Nationalisation of railways is a suggestion that seems to be made regularly wherever privately-controlled railways are in being. In Argentina there has been a number of projects of this kind, and at recent meetings of some of the major British-owned lines the chairmen have informed their stockholders of their views. At the Buenos Ayres & Pacific Railway meeting Mr. J. A. Goudge drew attention to a private member's Bill which had been put forward in the Senate, providing for purchase of all the privately-owned railways by the issue of Government bonds. Details of this Bill were given in THE RAILWAY GAZETTE of October 25. When this measure was referred to a committee of the Senate, the views of certain of the British-owned railways in Argentina were sought, and it is interesting to note Mr. Goudge's statement on this point. He said, "as we are subject to a national expropriation law, our reply would probably be that we respected that law, and that the matter for discussion would mainly be the amount and form of the compensation to be received." No indication has yet been received of the view of the Argentine Government in the matter, but a member of the Chamber of Deputies has voiced public concern lest the control of these railways should pass into foreign hands, which might exert pressure and influences antagonistic to the national interest. It is probably not without significance that the member also said that Argentina could trust the British, but that there were other powers with which the country did not share that well-founded mutual confidence and respect. The British investment of capital in Argentine railways of £277,000,000 is a large stake, and the compensation which would be required for parting with it would indeed need to be substantial.

* * *

The Rangoon-Kunming-Chungking Railway

History is being made rapidly in the Far East. The collapse of French Indo-China as a bar to further molestation of China by the Japanese, the reopening of the Burma Road, and the attachment of Japan to the Axis *bloc* all tend to bring Great Britain and China closer together. As a result, the eventual construction of the railway between Lashio and the Chinese frontier is brought one step nearer materialisation. It will be remembered that this 100-mile line is the missing link in the 1,750-mile rail chain—existing or building—between Rangoon and Chungking, the present capital of China, and that it is entirely in British territory. The reopening of the road will enable the Chinese to expedite the construction of their portion of this chain, and, in particular, the link between Kunming, the capital of Yunnan

Province, and the Burma frontier east of Kunlong ferry on the Salween river. So rapidly is Yunnan developing industrially and academically, that, apart from the demands of the war, an immediate outlet to the sea, and to the west in particular, is imperative, especially now that the French Yunnan Railway is closed to her. It seems quite irrational, therefore, that this one-eighteenth part of the rail route connecting the capitals of Burma and China should remain for long unbuilt, with all the obvious disadvantages of transshipment to and from road vehicles for such a small proportion of the total distance.

* * *

The Development of Yunnan

With the exception of a few deep valleys, like those of the Salween (2,500 ft.) and Mekong (3,000 ft.) rivers and their tributaries, the whole of the Chinese province of Yunnan is over 5,000 ft. above sea level. Consequently, it is healthy and temperate in climate, and for scenic beauty it is almost incomparable. Its wonderful suspension and other types of bridges, roads, and irrigation systems prove it to be a land of natural engineers. Also, its inhabitants are hard working and thrifty and its soil yields three crops a year off each field. Though as yet only partly explored, the mineral wealth of the province is undoubted and its coal deposits extensive. By their invasion of Eastern China the Japanese have driven into the western provinces some of the best brains and much of the wealth of the east. Yunnan has her share of these, and the result has been a remarkable development of that former Cinderella province in learning, in commerce, and in industry. Engineers and businessmen, many of them trained in Japan, America, or Europe, have not been slow to appreciate the possibilities and natural advantages of their new homes, and have given of their best to develop the province of their adoption in every way and to defend it against unprovoked attack. To market the rapidly ripening fruits of their labours, however, an adequate outlet to the sea is essential, such that only a railway can provide, and hence the urgent demand for a through line to Rangoon, all others existing or prospective being closed to Yunnan by her enemy, Japan.

* * *

Reclamation Depots

There are often many ways of achieving a desired result, and two papers recently delivered to the Pacific Railway Club in Los Angeles described the different methods of scrap and reclamation handling adopted by the Santa Fé and the Southern Pacific Railways. The former was a pioneer in centralising its scrap and reclamation arrangements, and about 30 years ago established a depot at Corwith near Chicago which was then the best scrap market. It was soon discovered in the sorting of scrap to various specifications that there were many items which could be re-used for repair, and this suggested a reclamation plant for the reconditioning of suitable items. After 1929, when trade began to decline, the centralised depot was abandoned for a number of local depots where there were markets for scrap, and thus long hauls to Chicago were reduced. Today all scrap is sorted at the point of origin, and supply cars pick it up and take it to the nearest local sorting and reclamation depot. By contrast, the Southern Pacific still favours the centralised method, claiming that it permits quantity production, controlled and reduced costs, and proper stock control. On both railways scrap from every department is handled by the Stores Department, which undertakes not only the disposal of the scrap, but the reconditioning of suitable materials of whatever origin.

* * *

Incidental Advantage of Multiple-Jet Blast

The primary purpose of most of the modern locomotive front-end developments has been to free the steam flow, including the exhaust, so as to obtain the maximum possible power of the steam in the cylinders. The old orthodox arrangement of somewhat constricted steam passages and valves leading through the cylinders to a small blast orifice, became a serious impediment with the development of

heavier trains and higher speeds, and it was this which led to the progressive improvement of the front end, the adoption of long-travel valves, steam passages with wide bends, and double or multiple-jet blast arrangements. Thus practically full boiler pressure is obtained in the steamchests, and back pressure is reduced to a minimum without impairing the draught. The Southern Railway, after having tried double blastpipes and chimneys and obtaining considerable improvements thereby, further experimented with the multiple-jet arrangement as first developed by Monsieur Lemaître of the former Northern Railway of France. A modified Lemaître five-jet blastpipe with large-diameter chimney has now been applied to a number of modern Southern locomotives with good effect in the intended direction. Another beneficial result achieved, perhaps unexpectedly, has been the very considerable reduction in carbonisation of the valves, and this may be attributed to the fact that the comparatively-small multiple-blast orifices afford very much less opportunity for ash to find its way to the valves and cylinders when steam is off. With the normal blast orifices, of comparatively large diameter, ash from the smokebox tends to find its way down the blastpipe when the engine is coasting, and some modern locomotives, using a high degree of superheat, have given a good deal of trouble with carbonisation when the time has arrived for periodical examination of the piston valves. Similar engines fitted with the Lemaître multiple-jet blastpipe have been almost free from this difficulty.

Materials for the Future Locomotive

Every so often persons of an inventive turn of mind, but often lacking engineering knowledge and experience, come forward with suggestions for abolishing some well-tried principle or feature of mechanical construction. Such would appear to regard the steam locomotive as a main object upon which to lavish their ill-founded ideas, perhaps maintaining that steam can be raised without the use of coal or oil or, if not quite so extreme, that the orthodox methods of using fuel is wasteful and indeed fundamentally wrong. The boiler and other parts, they say, are too heavy as now constructed, so they advocate the use of aluminium alloys instead of steel, and the flash principle of raising steam in boilers of smaller size and different assembly. It is, of course, one of the principal aims of the experienced locomotive designer to save weight wherever possible by the adoption of special materials permitting reductions in the thickness of plates, rod sections and so forth, while maintaining strength and durability. Experimental use has been made in America of aluminium alloys for locomotive parts, and developments to a limited extent will most probably occur. We must not, however, foresee the adoption of the all-aluminium boiler, great as the advantage would be from the point of view of weight-saving.

First Class Fallacies

Ever since it was announced that members of the Forces travelling by train would be permitted to use first class accommodation when all thirds were full, there has been a liberal interpretation of the statement by many to whom it was not addressed. In fact, on a half-empty suburban train early one afternoon we heard a civilian gate-crasher in a first loudly proclaim that "anyone's a mug who pays first class fare today." This was a little galling to the mugs within earshot, among whom were ourselves. We know that the first class carriage is often looked on askance as a subtle threat to the principles of equality and fraternity, although no such implication attaches, for example, to the graded prices of cinema seats. There are undoubtedly many who would like to see its total disappearance even from long-distance trains. We will not argue the economics or ethics of the point, but we do think the result of such a step would be far less of a cure-all for overcrowding than is sometimes imagined. Firsts are now limited and well-filled, mainly with those whose military rank compels them to travel there, however revolting to their principles. Rows of empty firsts going begging are like the Loch Ness monster; few have seen them, but many can be persuaded they exist.

Madras & Southern Mahratta Railway

THERE was no change in the open or mean mileage worked by this company during the year ended March 31, 1940, and at this date the company and State lines worked consisted of 1,119 miles broad gauge and 1,712 miles metre gauge. Other worked lines were 31 miles broad gauge and 104 miles metre gauge, of which 51 miles belonged to the West of India Portuguese Railway. Gross earnings of company and State lines during the year under review amounted to Rs. 765.04 lakhs, an improvement of Rs. 38.76 lakhs. In the working expenses of Rs. 428.78 lakhs there was an advance of Rs. 9.50 lakhs, leaving net earnings of Rs. 336.26 lakhs which showed the satisfactory improvement of Rs. 29.26 lakhs. "Worked lines" produced net earnings of Rs. 11.64 lakhs against Rs. 11.85 lakhs in 1938-39. For the whole system gross earnings were higher by Rs. 37.82 lakhs, working expenses were increased by Rs. 8.77 lakhs, and net earnings were bettered to the extent of Rs. 29.05 lakhs.

Earnings from coaching traffic were Rs. 5.64 lakhs more than in the previous year, a welcome change from the recurring declines of previous years. The increase came chiefly from ordinary passengers, parcels, and military special trains, and was partly due to the supplementary charge added as a war measure from March 1, 1940. Increases under the main heads of goods traffic included fuel Rs. 5.27 lakhs and general merchandise Rs. 21.08 lakhs. Oil seeds traffic was Rs. 16.03 lakhs lower than in the previous year, when the crop for two seasons was moved. Improved demand from overseas and from the local mills for raw cotton, Rs. 7.03 lakhs, and piece goods from Northern India, Rs. 2.19 lakhs, were stimulated by the curtailment of supplies from Europe and by military requirements.

	1938-39	1939-40
Mean mileage worked	2,974	2,974
Passengers	32,823,159	32,202,235
Paying goods, tons	5,234,048	5,499,008
Operating ratio, per cent.	57.7	56.1
	Rs. lakhs	Rs. lakhs
Passenger receipts	199.69	202.99
Goods receipts	475.35	495.16
Gross earnings	754.45	792.27
Working expenses	435.60	444.37
Net earnings	318.85	347.90

In working expenses the small increases of Rs. 0.79 lakhs under repairs and maintenance and Rs. 1.98 lakhs under operating expenses were not excessive for the additional traffic handled and the larger issues of coal. The company's share of surplus profits for the year was Rs. 11,16,046 against Rs. 10,17,703 for the previous year. After deducting Indian income tax and supertax the figure was Rs. 8,71,911 against Rs. 7,95,081 for 1938-39.

Buenos Ayres & Pacific Railway

THE report for the year ended June 30, 1940, states that the improvement in receipts experienced in the previous year was unfortunately not maintained, and although the earlier months of the financial year were satisfactory, receipts fell off later with the result that the final figures for the year showed a net reduction in profit of £153,365. In spite, however, of the higher cost of fuel and other imported materials, the General Manager has been able to reduce working expenses by £176,153. An explanation of the decrease of £329,518 or 5.02 per cent. in the gross receipts is afforded by two facts. First, the wheat harvest at the end of 1939 was relatively poor, and provided only 427,000 as against 655,000 tonnes for transport. Secondly, although the maize harvest early in 1940 gave a very good crop, above the average, the war completely suspended its export, for all the large consumers in Europe were out of the market, and the bulk has remained in Argentina. A large proportion of this was not even shelled when the accounts closed at June 30, at which time there were no less than 664,000 tonnes along the line awaiting better conditions. The one traffic which counterbalanced the losses was that of petroleum from Mendoza, which gave an increase of £100,000.

War conditions might have been expected to tend to improve the sterling value of Argentine currency, and the total loss on exchange has in fact fallen from £706,589 to £643,672. The very effective and comprehensive measures taken by the

financial authorities over here have, however, secured a stable price for sterling throughout the year, and the special rate of 16 pesos to the £ accorded to the railway companies by the Argentine Government for remittances in payment of financial obligations was continued during the twelve months. As from October 17, 1939, the companies were granted a rate of 15 pesos to the £ for remittances for payment of railway stores imported from England.

	1938-39	1939-40
Passengers	14,335,765	14,298,420
Tons of goods (metric)	3,306,789	3,233,297
Train-miles	9,600,937	8,859,920
Net profit per train-mile	3s. 4½d.	3s. 3½d.
Operating ratio, per cent.	75.46	76.62
Passenger receipts	£ 865,859	£ 861,914
Goods receipts	4,609,435	4,458,944
Gross receipts	6,563,161	6,233,643
Working expenses	4,952,629	4,776,476
Net receipts	1,610,532	1,457,167

The sum of £250,000 set aside as a further provision for deferred renewals has been included in the working expenses of the year. Two payments each of one half-year's interest were made on March 20 and August 23, 1940, on the 4½ per cent. consolidated debenture stock of the company and on the 5 per cent. debenture stock of the Argentine Great Western Railway Company, so that payment of arrears on these stocks has been brought up to January 1, 1936, and April 1, 1936, respectively.

* * *

Central Uruguay Railway

THE report of the directors of the Central Uruguay Railway Co. of Monte Video Ltd. for the year to June 30, 1940, shows gross receipts at £1,142,873, an increase of £162,207 over those for the previous twelve months. Working expenses at £918,762 were higher by £131,811 and net receipts rose £30,396 to £224,111. After adding the balance from the previous year (£17,920), the Government guarantee (£32,576), and arrears (£31,716), exchange differences (£14,093), interest and discount (£863) and transfer fees there was a total of £321,475. Deducting interest on the 4½ per cent. debenture stock (£51,750), appropriation on account of renewals (£226,741), provision for income tax (£24,609), and contribution to London office staff pension fund (£1,569), there is a balance carried forward of £16,806.

	1938-39	1939-40
Passengers	5,465,734	5,317,603
Public goods, tons	1,001,730	1,015,310
Average receipt per ton	9s. 3.37d.	10s. 9.49d.
Train-kilometres	4,224,646	4,636,110
Operating ratio, per cent.	80.25	80.39
Passenger receipts	£ 226,423	£ 253,109
Goods receipts	464,852	547,819
Gross receipts	980,666	1,142,873
Expenditure	786,951	918,762
Net receipts	193,715	224,111

The sterling value of the Uruguayan peso appreciated during the year. The average rate for the conversion of receipts and expenses was 29.5d. to the peso, as compared with 26.6d. in 1938-39. The effect was that the increase of 3 per cent. in currency receipts became, when converted to sterling, over 16 per cent., and the expenses similarly showed increases of 4 per cent. in currency or 17 per cent. in sterling. Net revenue was increased by a credit of £14,093 on account of exchange differences, compared with a loss of £15,621 in the previous year, and also by reason of a conclusion being reached with the Uruguayan Government on a point of difference as to the exchange rate at which net receipts were converted for the purpose of arriving at the amount of guarantee payable on the Eastern Extension Line. A compromise was effected in respect of past years by the payment to the company of £63,751, and an agreed basis was established for the future. After deducting income tax, £20,823 relating to the period before the reconstruction in 1937 was credited to capital account, and the balance brought into the net revenue account. Much essential renewal work on the track has had to be deferred again, though thanks to the improved working results of last year, a part of the main line which required immediate attention, has been dealt with, it is stated. For a comparatively small sum, to be spent this year to finish off the work, some 50 km. of track will have been brought up to standard.

The Problem of Split Sleepers

FOR some years past research has been going on in the United States into the behaviour of wooden sleepers, and in particular into the means which can be adopted to reduce, and if possible prevent, the tendency of the timber to split. At the March, 1940, convention of the American Railway Engineering Association a paper was presented on the subject.* Splitting of timber is the result of shrinkage, which in its turn is due to the gradual loss of moisture. The moisture comes to the surface either as a vapour moving along the capillary channels in the wood after internal evaporation, or as a liquid moving through these channels or through the cell walls. The ends of a piece of timber lose moisture more rapidly than the sides, and the sides more rapidly than the interior; the resistance of the still moist interior to the compressive stress set up by the shrinkage of the exterior is the most fruitful cause of splitting. Maximum shrinkage takes place in the direction of the annual rings, or tangentially; about half as much across the rings, or radially; and, as a rule, very little along the grain, or longitudinally. There is no relation between the initial moisture content of the green timber and its ultimate shrinkage, for shrinkage does not begin until the fibre-saturation point is reached—that is, until the cell cavities have given up their free water and are empty, while the cell walls are still saturated. It is not possible to determine exactly when a sleeper will split, but the trouble is most acute in the summer, when excessive heat causes unduly rapid seasoning. Most splits start from the sleeper-ends, and follow radial lines, both vertically and diagonally; the majority also extend from the top to the bottom of the sleeper, or the shortest distance through it. Owing to the sapwood on their sides, rounded sleepers have a tendency to split.

Splits are harmful for various reasons; they expose untreated interior wood to the entrance of fungi, resulting in decay; they may reduce the bearing area of soleplates or ties, or the holding power of fastenings; and the sleepers cannot be properly tamped. To cope with the evil, control of the rate of drying of the timber is the first step. If it were possible to season sleepers in such a way that the loss of moisture were uniform throughout their cross-section, shrinkage stresses would be eliminated; but the cost of kiln-drying timber in such sizes as sleepers, for this purpose, is prohibitive. Short of this, considerable importance attaches to the method of stacking sleepers during the seasoning period, in order to facilitate the circulation of air, which in its turn controls the speed at which the evaporated moisture is carried away. Vertical circulation of air is of the utmost importance, and this is promoted by good horizontal circulation beneath and around the bottom of the sleeper stacks. During the drying of green sleepers, heat is absorbed by the timber, and the surrounding air, thus becoming cooler and heavier, descends towards the bottom of the stack. The arrangement of the stack should be designed to aid this natural movement, permitting as far as possible an unobstructed and continuous flow of air, and care must be taken to prevent stagnation of air in the lower part of the stack.

In addition, anti-splitting irons are largely used in America, though the method of their application varies. Some railways apply two irons to each end of all hardwood sleepers (except gum) as they are stacked; others use the double irons for main line sleepers but single irons only in the case of sleepers for subsidiary tracks. Another method is to drive single irons into the sleepers on receipt, and to apply the additional irons later. In other cases the iron treatment is more selective, and is applied only to sleepers which show indications of splitting at the time of stacking, or later on if splits appear to be developing. In order to avoid wastage of badly split sleepers, these are compressed in various ways, and then fastened by bands, bolts, dowels, or several irons. To be effective, the irons must be applied intelligently by men capable of judging the probabilities of splitting in each case. It is also generally understood that certain varieties of timber split more readily than others, so that the loss from badly split sleepers can also be minimised by more careful selection of the timber used for sleeper purposes.

* Reported at length in our American contemporary *Railway Engineering and Maintenance*.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Wagon Capacity and Freight Train Speeds

25, Green Lane,
Northwood,
Middlesex
December 2

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The two short editorials headed "Wagon Capacity and Loads" and "Freight Train Speeds" respectively, in THE RAILWAY GAZETTE of November 29, bring into the open certain criticisms of the use made in the debate in the House of Commons on November 13 of figures taken from the Ministry of Transport Railway Returns in regard to wagon and train loads and speed of movement of freight trains, and I am very glad that you have challenged not the facts, which are indisputable, but the conclusions drawn from them.

It has been stated repeatedly, both in your columns and elsewhere, that the answer to criticism of the poor average load per wagon of general merchandise lies in the fact that general merchandise traffic carried by railway by reason of its bulk in relation to weight cannot be expected to yield anything like a dead weight of 10 tons to a 10-ton wagon. I am sure you will appreciate that I have never overlooked this factor in dealing with average loads. It is a factor which must be taken into account, and which I have allowed for in all my calculations. To assume, however, that it is the complete answer to my case, particularly when that answer is based upon the selection of extreme examples, is to caricature the situation. There is no dispute about the examples quoted, but unless it can be proved that they are genuinely representative of such a large proportion of the total tonnage carried by railway as to make the general average of the cubic contents of all merchandise bulky out of all proportion to deadweight, they do not serve any useful purpose.

You state that 6 cwt. of pottery crates (without straw) would fill a 12-ton wagon. I accept this statement. It means that weight is so infinitesimal in relation to bulk that the average measurement per ton deadweight is 1,400 cubic feet, but what is this intended to prove? Is it seriously suggested that there is such a large proportion of traffic carried by railway at 1,400 cu. ft. to the ton deadweight as (taking into account the very considerable proportion of traffic which loads not more than 40 cu. ft. to the ton) to make the difference between an actual average deadweight load of 2.81 tons per wagon, and an average deadweight carrying capacity of, say, 10 tons? Or the proportion of empty beer barrels?

What it really means is that while the Ministry of Transport figures are average figures, and are comprehensive, the natural interpretation of them is criticised not on the basis of average figures at all, but merely of very extreme instances.

However that may be, bulk in relation to weight is not a problem peculiar to railway operating—it is an important factor in shipping, and is also very important in connection with road transport. It has been met by building, within the limitations imposed by the statutory regulations regarding size of vehicles, bodies for road vehicles which are of sufficient cubic capacity to carry as nearly as possible the full deadweight capacity of the vehicle. Is it, however, necessary to go to the most serious competitor of the railways for information of this kind? Is it not a fact that the railway companies also make provision, by means of wagon bodies with an exceptionally high cubic capacity in relation to deadweight carrying capacity, for these bulk loads?

One type of Great Western Railway 10-ton covered goods wagon has an inside capacity of 1,096 cu. ft., which is equivalent to 27 cu. tons; in other words, for every ton of deadweight the wagon will carry 2.7 cu. tons. Another has

an inside capacity of 1,362 cu. ft., the equivalent of 34 cu. tons—3.4 cu. tons to the ton deadweight, so that the railways themselves provide one answer to your criticism.

If there are not sufficient of these wagons to provide for all the bulk traffic which is handled, and if the general average of bulk in relation to weight is so high as is suggested, it is clear that the standard 10-ton wagon has been designed without any reference to what is the real standard 10-ton load.

Your observations in regard to actual train load are also based upon the same inadequate data, and I suggest there is no justification for the sweeping conclusion that better train loading is not achieved because of the varying nature of the traffic and the cubic capacity of the wagons.

Your explanation of the freight train miles per train engine hour figure gives complete confirmation to the whole of my arguments in relation to this figure. You say that this statistic is not, in fact, speed of movement. Your interpretation of the phrase "speed of freight train movement" appears to be running speed. In the paper I read to the Institute of Transport on October 14, I was very careful to choose a phrase which interpreted accurately the meaning of the statistic, and if the average number of freight train miles covered per train engine hour is not the average speed of movement, words have lost their meaning. It represents the average distance covered in train miles for every train engine hour expended. This statistic was introduced to cover performance—to measure the number of units of effective work performed (the number of miles traffic is moved) for each unit of locomotive expenditure, that is, per engine hour.

Freight trains, when they are running, certainly exceed 9.15 m.p.h. between stops—30, 40 or more m.p.h.—but my whole point is (a) that the overall speed (including stops for working, putting goods in and taking them out, shunting and so on) instead of being, as it could easily be, 30 miles per train engine hour or more, is as low as 9.15 because of these stops; (b) that these intermediate stops are due to obsolete methods of handling the goods; and (c) that if they were eliminated the effective work achieved for each unit of motive power expended (train miles per train engine hour) could be increased at least threefold.

In your comments you acknowledge that high running speeds are within the capacity of the locomotive, that low overall speeds are due to the causes to which I attribute them, intermediate stops, shunting and so on, and I suggest that you must logically acknowledge, therefore, that if these causes could be removed, great improvement in service and substantial economies would be possible.

Whether or not you are prepared to go so far as to acknowledge that the remedy for the removal of those causes which I suggest is the right one, I think you will agree that, on the facts, I have at least made a case for competent investigation of my proposals. On those facts it is quite clear and quite indisputable that railway operating is not efficient (I use the term in a purely mechanical, not a personal, sense, as representing excessive expenditure of energy in relation to output), and I do submit that, in the interests of railway workers, of shareholders, and above all of the nation, no stone should be left unturned, no remedy go untried, in a vigorous effort to make it efficient.

Yours faithfully,
FREDERICK SMITH

[There are, of course, other factors involved in addition to those mentioned by Mr. Smith. One is the extent to which traffic for a particular destination—often as low as one ton—must be loaded direct and conveyed at once without waiting for further consignments for that destination. There is the well-known tendency of traders to carry smaller and more diversified stocks and to order more frequently in smaller quantities. There is the fact that port authorities require consignments over two tons for one ship to be loaded separately. And so on. In referring to the Great Western special-type wagons Mr. Smith converts cubic feet into cubic tons by taking 40 cubic feet as equal to one cubic ton; this formula is defined on p. 635 of Whitaker's as being approximately the bulk of four quarters of wheat and clearly would not be applicable to all traffic.—ED., R.G.]

THE SCRAP HEAP

During the past three months the L.M.S.R. has collected 4,045 tons of waste of all descriptions. Included in this total are scrap metal (2,193 tons); waste-paper (1,287 tons); rope (193 tons); timber (216 tons); bricks (45 tons); cotton and wool pickings (2½ tons); and 65,706 bottles.

MANCHESTER L.M.S.R. SALVAGE SALE

The L.M.S.R. has announced the opening of a new salvage sale depot at Irwell Street goods depot, Salford. The opening sales, to be held early this month, will be the first L.M.S.R. salvage sales that have taken place in Manchester. Because of the variety of goods that come under the hammer, including everything from a pot of jam to a suite of furniture or a pencil to a drum of oil, these sales attract buyers from all parts of the country.

BALLOONS ADRIFT

"Swarms" of British barrage balloons drifted over Sweden during last night, according to a Stockholm message, quoted by Berlin. Their mooring cables again caused considerable damage, notably to electric high tension cables near Gothenburg.—From the "Evening Standard" of November 28.

The next best thing to travelling is to ponder its pleasures at home. If I have any time off at Christmas, I think I shall beguile it with the pages of the continental "Bradshaw." It will provide first-rate escape from reality to do for myself what the patient expert behind the counter at Cook's used to do for us in peacetime. I have tried it before, and commend it as an absorbing pastime for any would-be traveller who must perform stay at home.—"Urbanus" in "The Church Times."

WITHOUT COMMENT

Our sleeping companions last night were a boy of six and his sister of nine. When the All Clear was sounded at 6.30 they said, "We are going home now, to a nice breakfast." "Not to sleep?" "Oh, yes! We go to sleep then, until twelve or half-past. Then about two o'clock we come back and wait until they let us into the station at four o'clock."—From "The Swiss Cottage," Bulletin No. 3.

DEFINITION OF SPEED

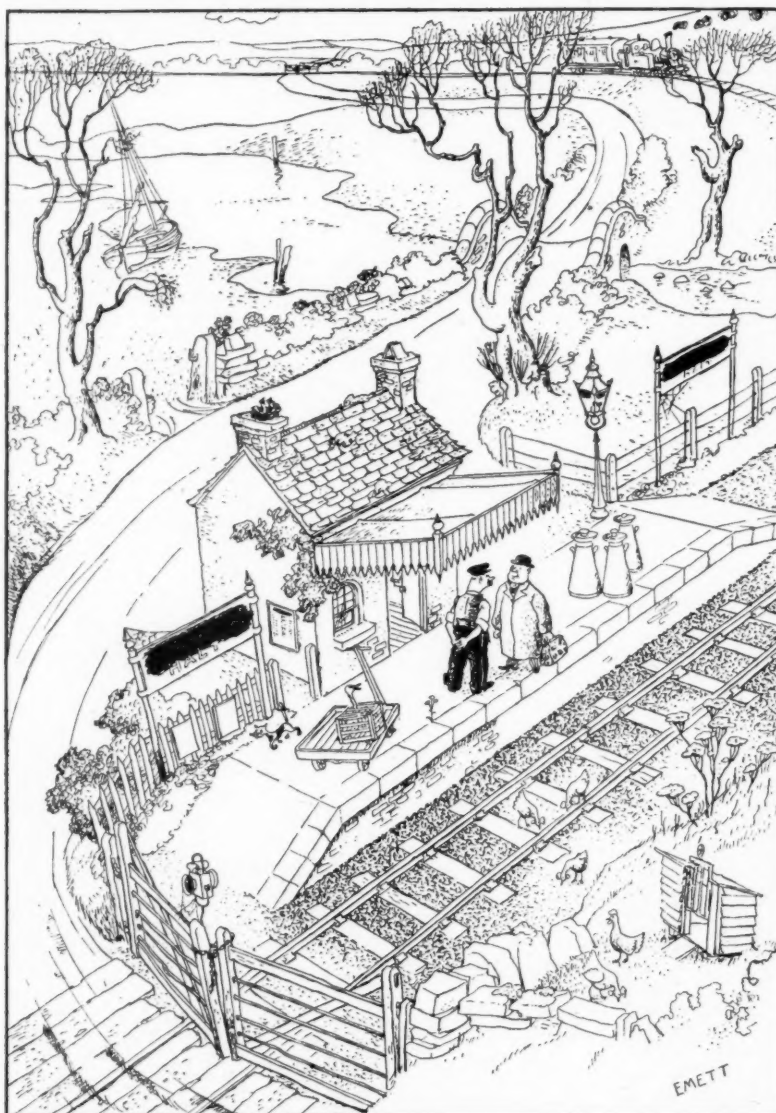
A witness in a motoring case before Mr. Justice Croom-Johnson recently, when asked for the estimated speed of a cyclist, said: "He was travelling pretty fast." But this was held to be too vague, and when pressed by the judge for a better description of the cyclist's speed, the witness replied: "He was travelling about as fast as a

newspaper boy on a bike in Rochdale on Saturday night."—From the "Liverpool Daily Post."

On the outbreak of the American civil war in 1861 there were already 31,000 route miles of railway in the States, and by the time peace was declared the figure had risen to about 35,000 route-miles. Yet it was not until 1867 that the first through train service between New York and Chicago was possible due to standardisation of gauge in that year. Even then, the only standard gauge route was by way

of the Great Western Railroad of Canada. To celebrate the inauguration of the through service, an excursion train, including the new Pullman "hotel" sleeping car *Western World*, was run, the journey taking six days. At Detroit the train was ferried across the river on "the great iron ferry boat."

The Bakerloo train from the Elephant was packed by the time it reached Oxford Circus. The platform was packed too. "Stanmore?" said a breathless new arrival to the guard. "Yes, but not many more," answered the guard. And the laugh passed right down the car.—From "Pennyfare."



"For all you know we might be Clapham Junction."

[Reproduced by permission of the proprietors of "Punch"]

Our anonymous stations as seen by "Punch"

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

NEW ZEALAND

Progress of the South Island Main Trunk Line

Construction of the South Island main trunk line from Picton to Christchurch [described and illustrated in our issue of October 4 last—Ed., *R.G.*] has been advanced a further stage with the completion of the Hapuka bridge near Kaikoura. Twelve months were required for building this bridge, which is of reinforced concrete, and has a length of 1,507 ft. and the piers were sunk to 23 ft. below water level.

The Amuri Bluff tunnel and the Clarence river bridge will be completed within the next few months, and the formation also is well in hand, most of the heavy work now having been finished.

Owing to a large number of the men engaged on the job having enlisted, work has slowed down somewhat, but it is expected that the opening of the line to through traffic will take place early in 1942.

Grade and Curve Improvements

A considerable improvement in operating conditions has resulted from the extensive programme of regrading and curve easements carried out during the past few years on various difficult sections of the railways of New Zealand. On the Westland section of the Midland (South Island) railway, important improvements have recently been completed between Stillwater and Jackson, a distance of 31 miles. Between Kaimata and Aratika, a 1 in 58 grade with a curve of 10-ch. radius near its summit, has been eliminated by a deviation at this point, which has eased the grade to 1 in 80 and increased the radius of the curve to 12 ch. Other grades on this route which have been eased to 1 in 80 are those at Arnold siding (formerly 1 in 59), Jackson (1 in 67), Kokiri (1 in 68), Kotuku and Te Kenga (both 1 in 70), and Inchbonnie (1 in 73).

Not only will the Railways Department effect substantial economies from these grade improvements, but industry in Westland—from which province a very large proportion of New Zealand's total output of timber and coal is derived—will benefit materially from the faster and more capacious freight trains that will now transport its produce to the markets of the South Island.

Railways Patriotic Fund

With a full realisation of their indebtedness to the men of the country's fighting forces, New Zealand railwaymen have responded generously to the appeal for donations to the Dominion's National Patriotic Fund. During the four weeks ended August 17 last, voluntary contributions from the railway staff amounted to £760, this being £120 in excess of the amount contributed during the preceding four weeks.

On the basis of contributions actually received from the respective districts, the money is apportioned each month to the various provincial patriotic councils, by whom it is used for the provision of comforts for the men of the New Zealand Forces on active service.

SOUTH AFRICA

De Luxe Train Service

The air-conditioned Union Limited and Union Express trains, between Johannesburg and Cape Town, are to be run twice weekly in future. The new service will be in force from December 7 next to February 1, 1941, and the timings will be as follow:—

Johannesburg, depart, 12.30 p.m. on Thursdays and Saturdays;
Cape Town, arrive, 12.15 p.m. on Fridays and Sundays.
Cape Town, depart, 11 a.m. on Mondays, and 3.10 p.m. on Saturdays;
Johannesburg, arrive, 2.10 p.m. on Tuesdays, and 6.10 p.m. on Sundays.

ARGENTINA

Financial Aid for Maize Growers

As foreshadowed in these columns, the Argentine Government has decided to come to the aid of the maize growers by purchasing the surplus crop amounting to some 7,000,000 tons, and the Grain Regulating Board has been officially authorised to purchase the whole of the 1939-40 maize crop at the price of \$4.75 a 100 kg., placed on rail in the port of Buenos Aires in condition for export.

The Government scheme for assisting the maize growers includes a reduction in the railway tariffs for this commodity, and with this end in view the representatives of the C.A., B.A.G.S., B.A.W., B.A. Central Terminal, and Rosario-Puerto Belgrano Railways were invited to meet the Minister of Public Works, Dr. Salvador Oria, to discuss the question. After hearing the Minister's views, the railway representatives promised to submit the Government's proposals to their respective London boards. Later the companies' representatives informed Dr. Oria that, despite the present very unfavourable financial situation, which held out little prospect of any immediate improvement, the companies had agreed to a reduction in the maize rates as from September 15, in accordance with the following scale: For distances up to 200 km. 10 per cent.; between 201 and 350 km. 15 per cent.; 351 km. and over, 20 per cent. These special rates are to remain in force till January 15 next.

This action on the part of the railway companies evoked a tribute from the Minister of Public Works, who stated that the companies' readiness to sacrifice a portion of their revenues at a time of such acute financial difficulty, in order to co-operate with the Government in its efforts to assist the maize growers, was specially praiseworthy.

However, their sacrifice in this respect would no doubt redound eventually to their advantage, as any improvement in the condition of the agricultural industry would naturally be reflected in business conditions generally, and consequently in the railway receipts.

Grain Sowings Estimate

According to the preliminary forecast of the area sown with cereals and linseed this year, issued by the Ministry of Agriculture on September 17, the acreage under wheat will be considerably below the average. This estimate puts it at 6,900,000 hectares (17,250,000 acres), as compared with 7,216,798 hectares (18,041,995 acres) last year, a reduction of 316,798 hectares (791,995 acres) or 4.4 per cent. The estimated sowings of the four principal crops are:—

	Hectares	(Acres)
Wheat	6,900,000	17,250,000
Linseed	2,700,000	6,750,000
Oats	1,500,000	3,750,000
Barley	832,000	2,080,000

CHILE

New Locomotives and Diesel Trains

The State Railways have had considerable consignments of locomotives, rolling stock and other equipment on order from abroad. Ten Mountain type locomotives, out of an order of 21 placed in the United States, have already arrived in Valparaiso.

On the other hand, six German built diesel-electric trains are reported to have arrived in May with essential parts missing, and consequently none is yet in service. These trains, which are streamlined, are three-coach units with an engine compartment at each end. The middle car has a small refreshment bar. The permanent way on the State lines is, however, at present unsuitable for high speeds.

SPAIN

Northern of Spain Not Taken Over

A report published by the foreign press referred to the alleged taking over by the State of the Northern of Spain Railway system. There is, however, no confirmation of this, and the version no doubt arose from brief reports appearing in the local press of the legal proceedings necessary, in accord with the Decree of June 15, 1939, to clear up the action taken by the Republicans during the Civil War to confiscate the railway and the property of the company.

Directing Council for Catalanian Companies

A Decree has appeared creating a directing council for the Catalanes Railway Company and the Tarrasa-Berga Economic Tramway & Railway Company, the working of which will in future be managed as one concern. The Catalanes company's railway is the narrow-gauge system between Barcelona, Martorell and Manresa. Berga is on the Manresa—Guardiola line, also narrow gauge.

GRAIN TRAFFIC ON ARGENTINE RAILWAYS—II

Special installations and vehicles for handling this important traffic between the producing belt and the port of shipment

By H. R. STONES, M.Inst.T.

IN the past, it has been the general practice for grain to be suitably "bagged" at producing point, and subsequently conveyed by road to the nearest or most convenient station, where the sacks were either loaded direct into wagons or stored in privately-owned or railway company's sheds pending transport. However, in recent years, and consequent upon the inauguration of numerous country station elevators, and similar smaller but portable installations, the more expedient cartage and economic transport of grain in bulk has been largely adopted. Prior to the "bulk" system from producing point, the loaded sacks received at a station elevator were broken open by hand, and the contents emptied into grids or reception hoppers conveniently placed over mechanically operated conveyor belts. By this means, the grain was quickly drawn into the silos or storage bins of the elevator. When received in bulk from road vehicles, the grain is discharged direct into the grids with consequent increased rapidity. After passing into the elevator, the bulk grain is transferred to wagons by means of chutes or metal telescopic feeder tubes. Nevertheless, it is very necessary that covered wagons in good condition be used, since grain in bulk is very susceptible to loss in transit due to filtration through cracks which may exist in the sides and floors of wagons of wood construction. With the advent of the bulk handling of grain on a large scale in the Argentine Republic, it was considered that the existing type of covered wagon stock would suit bulk transport, but when, and where possible, preference should be given to vehicles of steel construction. This was because it was found that when steel rolling stock was used, leakage was practically eliminated in comparison with the older wooden wagons.

In the stowing of bulk grain, the North American practice of using dummy or duplex doors has been followed with certain modifications inasmuch that instead of doors formed of separate boarding, strong portable dummy doors of wood about two-thirds the height of the ordinary wagon door, are fitted inside the door openings. Before loading bulk grain, the dummy doors or *compuertas* as they are termed in Spanish, are fixed in position on both sides of the wagon, and the grain is then spouted or discharged from the elevator; only one door is utilised for loading, in order to take full advantage of the maximum capacity of the wagon (generally 20, 45, or 50 tons). Experience has proved that bulk wheat can be loaded in this way at an approximate speed of two tons a minute for each loading or feeder tube. Allowing for the movement of wagons for loading purposes, some idea can be formed of the celerity with which a full freight train with, say, a thousand tons grain capacity, can be loaded and made ready for despatch. When a wagon has been loaded to capacity, i.e., up to the height of the dummy or temporary grain door, the wagon door proper is closed and bolted, while as an extra security against pilferage in transit, the doors on both sides of the vehicle are sealed with lead seals attached to thick wire, which is passed through the bolt securing the door. The practice of sealing wagon doors in this way is more or less uniform for all classes of freight traffic conveyed by rail throughout the Argentine Republic. Goods guards, station and yard staff are obliged to make frequent reviews

of wagons in transit, and report at once any broken seals or other anomalies. Frequently the railway companies undertake special checks of wagons in transit to ascertain that the load is in accord with the declared tonnage figuring on the corresponding invoice. In such cases, the wagons are re-sealed and the invoice endorsed accordingly. It should be mentioned that the acceptance of a specific tonnage of grain for transport is based on the declared tonnage given by the loaders. Details of such tonnage are supplied on specially printed forms, copies of which accompany the invoice. By this means, and in case of doubt, the railway companies are able to compare these details with the weights obtained on the company's weighbridges.

Growth of Bulk Handling

The bulk loading of grain on the Argentine railways has been steadily increasing during the last ten years, since it has been proved conclusively, from experience gained, that the handling costs are thereby considerably reduced. The system of loading grain in bulk was first introduced in the United States of America in 1860, and has since been developed to a very high degree of efficiency in that country and also in Canada. So far as the Argentine Republic is concerned, bulk loading of grain was first experimented with by the Central Argentine Railway as far back as the year 1904, using hopper wagons then in use for the transport and distribution of stone ballast for track maintenance. This experiment, however, was not successful due to the unsuitability of the hopper wagons for this class of traffic. As the result of the experiment, however, further developments took place in 1909-10, when the Central Argentine Railway introduced a series of box wagons fitted with hopper grid discharge in the floor, and man-hole loading openings in the roof. The lateral doors of these vehicles were made grain proof by covering the interior with empty sacks. This system eventually led to the general use of covered wagons, suitably adapted with temporary doors as already described. At the present time the Central Argentine Railway transports in bulk some 50 per cent. of its total grain tonnage.

Unloading and Reception at Ports

On arrival at the ports, the wagons containing grain for export are placed in the discharge or terminal elevator sidings, which are set apart for this class of traffic. Wagons received for various grain firms operating at one specific port, are classified by the railway companies either in transit or at destination point; these are later conveyed to their respective private sidings, wharves, or elevators. The unloading operations of grain at ports can be generally classified under two distinct headings, namely:—

- (a) Grain discharged direct from wagon to ship for immediate exportation.
- (b) Grain discharged from wagon to terminal elevator pending shipment or demand.

Under the former heading, and when grain is received in sacks, these are unloaded on to a fixed or portable conveyor belt, which transports the sacks to chutes, giving access to the ship. Here the sacks are broken



Country station grain elevator at Gonzalez Chaves, Buenos Ayres Great Southern Railway



Grain elevators of the Central Argentine Railway alongside Dock No. 2 at the port of Buenos Aires

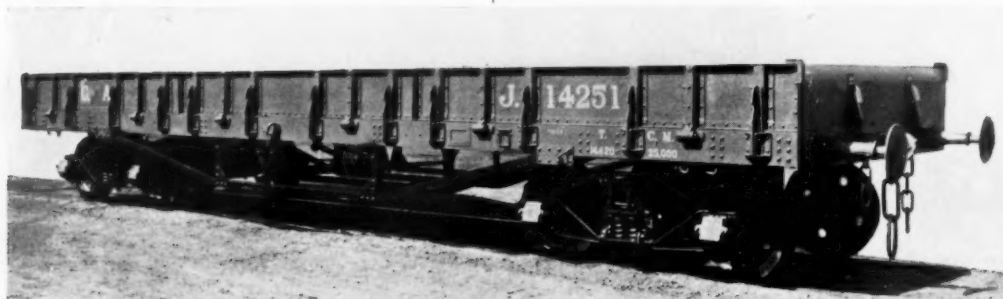
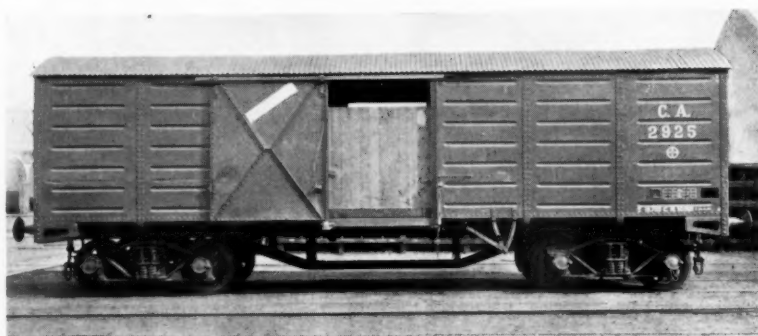


Typical grain and merchandise freight train, Buenos Ayres Great Southern Railway



Left : 45-ton open steel wagon loaded with bagged wheat, Buenos Ayres Great Southern Railway

Right : 50-ton covered steel wagon showing dummy or temporary grain door in position for loading bulk grain, Central Argentine Railway



25-ton low-sided open steel wagon, Central Argentine Railway

open by hand, and the contents emptied into the holds. At points where the discharge sidings are situated over or alongside grids or reception hoppers, the sacks after being unloaded from a wagon are immediately opened and discharged into the grids, which are conveniently placed over conveyor belts. The grain is thus carried to the loading or feeder telescopic tubes, which are elevated over the ship's hold to effect loading by gravitation. When grain is received in bulk, and as soon as the wagons are placed in readiness for unloading, the lateral doors are opened, and the dummy or temporary grain doors are then slightly raised from the base by means of crowbars. This operation permits the bulk grain to flow immediately by gravitation from the wagon into the grids, but to expedite the discharge the temporary doors are later removed completely, and men enter the wagon with shovels to complete the work of emptying the vehicle. In recent years, manual labour has in many cases been somewhat reduced by the use of power shovels operated by electric winches. Up to the present, wagon cradles as used on the North American continent for "shaking" the grain from the wagons, are not adopted in Argentina.

In connection with the discharge of grain at the ports, the following figures are interesting inasmuch as they represent the approximate speed with which this operation is carried out:—

Bulk grain		Bagged grain	
Wagon of 50 tons' capacity	Wagon of 20 tons' capacity	Wagon of 50 tons' capacity	Wagon of 20 tons' capacity
25 min. (A) 15 min. (B)	13 min. (A) 5 min. (B)	40 min. (C)	20 min. (C)

(A) Gang of 10 men with shovels
(B) One power shovel manipulated by two men
(C) Sacks offloaded by hand

The average speed of the elevation of bulk grain to the storage bins of a modern elevator ranges from 5 to 10 tons a minute, according to the installation. In the case of loading bulk grain direct from wagon side to ship by means of movable conveyor belts, the speed averages about 2 tons a minute, while from elevator to ship it is between 5 and 10 tons a minute. It will therefore be appreciated from the foregoing that the advantages of the transport of grain in bulk are clearly demonstrated.

Government Rules for Wagon Supply

Railway operation in the Argentine Republic is governed by a National Railway Law, No. 2873, which with its corresponding regulations, was decreed on November 24, 1891. Since that date, however, a number of modifications has been introduced from time to time, to meet modern requirements. The provision of freight rolling stock for loading purposes is laid down in Articles Nos. 291, 292, 293, and 294 of the Railway Law, which stipulates that a wagon register must be kept at all stations for the purpose of regulating the supply of wagons to loaders. Applications must be taken in turn, according to the consecutive number of the requisition made by a loader, and can be made only in proportion to the daily tonnage of freight carted to a specific station. However, in cases where freight traffic is accumulated without application for wagons, the latter can be made out only for a wagon supply equivalent to the average daily tonnage brought into a station. The railway companies are also authorised in case of necessity to demand a deposit of 50 cents (Argentine paper currency) or the present approximate equivalent of about 6d. a ton of freight to be transported, as a guarantee that wagons supplied will be duly loaded. The wagon requisitions which are made are not transfer-

able, and the freight must be despatched to the consignee, whose name figures in the register. However, after a wagon has been despatched, and the sender wishes to change its destination, he can do so by making application, and on payment of a small charge. Owing to the varying intensity of grain transport, which is affected by climatic conditions, fluctuations in market prices, and chartering of ships by exporters to clear port stocks, the aforementioned Government regulations are of great assistance to the railway companies during the "rush" periods of grain movement.

Control Arrangements and Wagon Distribution

The greater part of the grain traffic conveyed by the railways in the Argentine Republic is focused on the up-river and sea ports, *i.e.*, the principal revenue-earning train movement flows in one direction. This calls for particular attention on the part of the operating departments to avoid congestion at the ports during the harvest peak period, and also to obtain a prompt turn-round of wagons for loading purposes. The speeding up of the loading and discharge operations is also an important factor, and invaluable assistance has been rendered in this respect by the bulk system of handling grain, and the construction of modern station and terminal elevator installations. The movement of freight trains, as also the distribution of wagon supplies, are closely supervised by the control or movement offices, which are in most cases responsible to headquarters or a central control office. Owing to the fluctuations in the price of grain, with consequent sudden demands for export, the control system is an essential factor, and plays an important rôle in the transport of grain in the Argentine Republic.

Owing to the seasonal nature of grain production, it has been found expedient for a large number of freight trains to run conditionally, *i.e.*, only when the traffic offering justifies it, while the outgoing trains of empty wagons for loading stations are generally so arranged as to be balanced by incoming loaded trains. By the latter means, light engine mileage is limited to a minimum. Details of the wagon requisitions made by loaders at stations, together with the tonnage, etc., of empty wagons on hand, and additional wagons required for loading, are supplied daily to the control or movement offices, where the necessary arrangements are made for the distribution of the wagon rolling stock.

Railway Rates and Road Competition

The rates applicable to grain are on a kilometric-tonnage basis. These are divided into three classes, the differentiation being determined on the respective value of the classes of grain as follows:—

Class A	..	..	..	Linseed
Class B	..	..	..	Wheat and Oats
Class C	..	..	..	Maize and Barley

Since grain is the principal commodity transported by the Argentine railways, the rates and charges for this class of traffic are important factors. In the event of any serious fall in the market prices of any particular grain commodity, there is usually an agitation to obtain a reduction in railway rates. This can be said to be the first and often the only remedy for the farmers and grain merchants under such conditions. Apart from the foregoing remarks, it should be mentioned however that as a result of the increasing construction of paved highways in the grain belts, road competition has become a serious menace to the railway companies. The road motor vehicle affords a direct and quick service between the points of grain production, up-country elevators, and the ports at comparatively cheap rates, apart from the complete

elimination of handling and storage charges at stations. Lorries transporting grain on the inwards journey return whenever possible with general merchandise for the outlying districts. Another feature of such road competition is the facility with which the road transport undertakings are able to adjust their charges in order to undercut any reductions made in the rail rates, being free from any form of official control in this respect. It should also be mentioned that the bulk handling of grain, which was originally introduced by the railways, is now being gradually extended to road motor vehicles, which are being adapted for this class of transport, and ample facilities are being provided at the ports for grain discharge from road vehicles.

While it is hoped to intensify the recent Government legislation for the co-ordination of transport in general throughout the Argentine Republic, it will be appreciated that the study of grain rates is of vital importance to the

railways, since any modifications are bound to have a direct influence on gross freight receipts.

The foregoing remarks will give a brief outline of the importance of grain traffic on the Argentine railways. Particular attention has been paid to the *modus operandi* of the four broad-gauge British-owned companies, which are the principal transporters of the country's grain commodities. Nevertheless, the remaining railways also play their part in this respect, although to a lesser degree. Due to the fact that the beginning of harvesting operations varies somewhat in the different zones due to climatic conditions, it will be appreciated that individual railway traffics are liable to show certain differences in their earnings.

In conclusion, the writer wishes to state his indebtedness to the various railway companies concerned for their valuable assistance in the compilation of this article.



Out-of-gauge loads are an every day contribution of the British railways to the war effort. A 40-ton kiln, 70-ft. long and 9-ft. in diameter, being loaded on a special low truck

Air Lines in China

Many details about commercial air lines in China and how they have been affected by the Sino-Japanese War were given last September by Mr. Woods Ding, of the China National Aviation Corporation, during a talk to Rotarians at Rangoon. Three companies are operating in China—C.N.A.C., the Eurasia Aviation Corporation, and the South-West Aviation Company. The only purely Chinese company, owned, operated, and financed by China, is the South-West Aviation Company. The C.N.A.C., which was established in 1929 by China Airways, an American concern, and the Chinese Ministry of Communication, is the oldest operating company and is now a subsidiary of Pan-American Airways. The Eurasia Aviation Corporation was founded in 1930 by Deutsche Luft Hansa and the Ministry of Communications, and in the same year the South-West Aviation Company was formed by the Kwantung and Kwansi Provinces. The first service operated by the C.N.A.C., opened in October, 1929, was between Shanghai and Hankow, and from then until 1935 it was flown by Loening flying-boats. Ford tri-motors were next used and now the company owns a fleet of Douglas DC-3s and DC-2s. By 1936 the company had connections

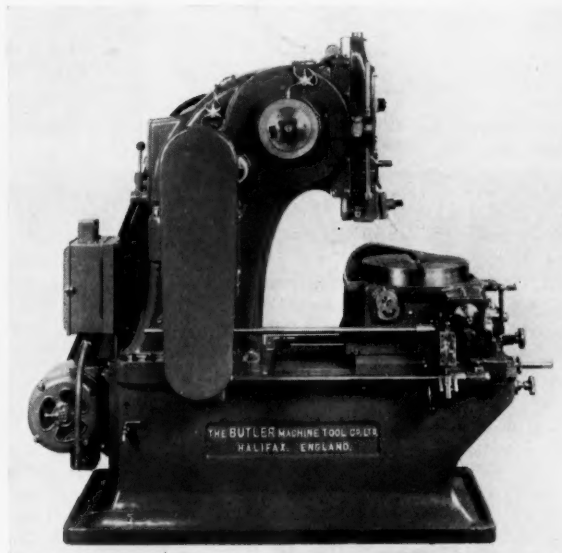
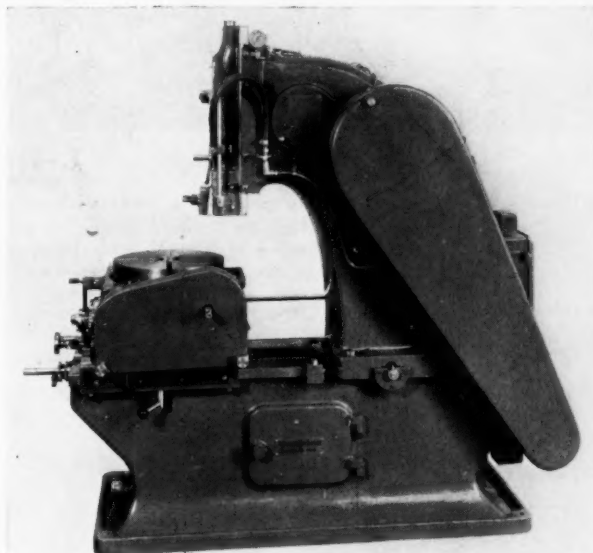
with Air France, Imperial Airways, and Pan-American Airways routes. Since the Japanese invasion began in 1937, the C.N.A.C. has had to shorten, suspend, and re-route its services and move its head offices to Chungking. Though so many places in China have fallen into the hands of the Japanese the C.N.A.C. is flying more miles than before the war. The length of the routes has grown from 3,296 km. to 5,543 km. The services operated by the C.N.A.C. were: Chungking—Chengtou, 290 km.; Chungking—Hong Kong, 1,307 km.; Chungking—Kiating, 351 km.; Chungking—Kunming—Rangoon, 1,436 km.; Chungking—Kweilin, 605 km.; Chungking—Kunming—Hanoi, 1,204 km.; and Chungking—Kweiyang, 350 km. The Hong Kong—Chungking—Rangoon service carried about 20 kg. of mail every month and the kilometres flown on this service up to August 8, nine months after it was opened, amounted to 246,468 km. Passengers carried during this time numbered 489, of whom 40 per cent. were European, 2 per cent. Burmese, 1 per cent. Indian, and 57 per cent. Chinese. Surface transport in China is so difficult, particularly during the war, that the Chinese are rapidly becoming accustomed to air transport and at present commercial flying is playing a vital part in the valiant effort to maintain unity and strength in China.

A NEW MACHINE TOOL

The Butler automatic indexing slotter

AMONG new machine tools which have recently been introduced, that illustrated on this page has been designed for the automatic production of all forms of internal and external gear teeth, splines or serrations which either cannot be produced by a gear cutting machine or which do not justify the purchase of special cutters. The component to be machined is mounted on a jig or plug in

and is correctly set for all modules up to 1; for modules from 1 to 6, adjustment must be made on the front cam in order to correct the time required for the withdrawal of the table and the indexing. When the machine has been set up in this way the sequence of operations is entirely automatic and requires no more supervision than that accorded to any type of gear cutting machine. As on all reciprocating gear cutting



Left: Front view of Butler automatic indexing slotter. Right: Rear view, showing the two horizontal shafts which provide the variable intermittent feed

the centre hole of the table, and provision is made to ensure that the tool also is central. The table is in three parts, namely, a lower slide, an intermediate slide, and the circular top, and there are three distinct movements in the cycle of operation, the feed in, the quick return, and the indexing.

The rear view of the machine shows two horizontal shafts which provide the variable intermittent feed and a two-speed drive for the power traverse and the indexing mechanism. Both these motions drive through a master cam inside the intermediate slide; this cam controls the sequence of operations and determines the maximum amount of time available for each. The time available is then split up by the two external timing cams at the front of the intermediate slide according to the number and depth of the teeth to be cut. The initial rough setting according to the diameter of the work is made by adjusting the lower slide on the base with the screw provided in the base.

The master cam provides for a maximum inward movement of the intermediate slide of 15 mm., and this amount can be varied by the graduated screw on the lower slide to give varying depths of tooth or serration. The quick return and the dividing of the table are controlled from the timing cams and the two levers shown in contact with them. As the table reaches the depth of cut selected the timing cam operates the left hand lever, which disengages the intermittent feed and engages the power traverse, thus returning the table to the starting point. The right hand lever then comes into operation and connects the power to the change wheels of the dividing mechanism.

Almost any number of teeth from 2 to 200 can be cut by altering the change wheels and the only other adjustment required is to the timing cams. One of these cams is fixed

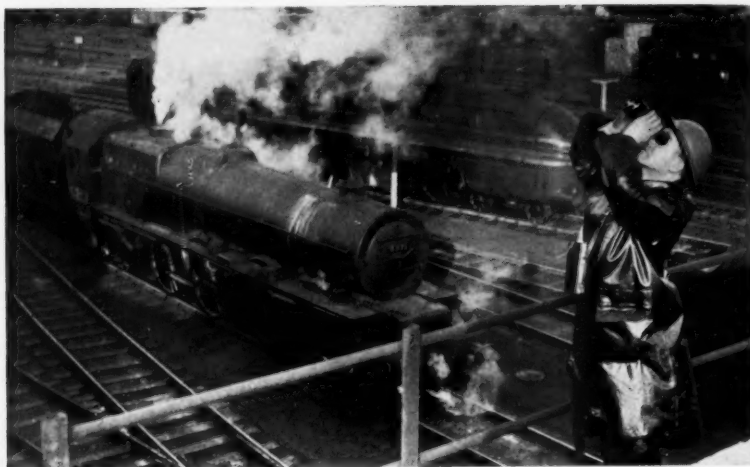
machines the tool is automatically relieved on the return stroke and provision is made for a continuous supply of cutting lubricant to the tool. The length of the stroke extends from 5 in. as a maximum to 1 in. as a minimum, and the maximum diameter of work, internal or external pitch line diameter is $14\frac{3}{4}$ in., with a maximum width of gear face of $4\frac{1}{2}$ in.

The machine, which is driven by a 2-h.p. electric motor, is described in an attractive brochure recently issued by the manufacturers, the Butler Machine Tool Co. Ltd., of Halifax.

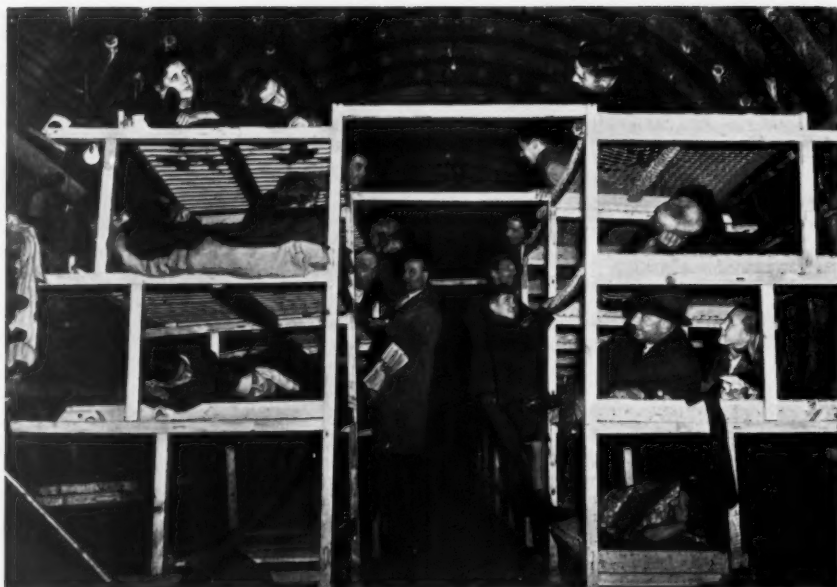
To Lower or to Clear

For many years it was the custom to use the expression "to lower a signal," when referring in the rules to changing one from "on" to "off," derived, of course, from the long-established lower quadrant semaphore working. With the introduction of the upper quadrant movement in this country, now become the accepted practice on three of the main-line railways, the expression was no longer accurate and of course did not apply to colour-light signals. The present standard R.C.H. Rule Book therefore contains a qualifying statement, to the effect that "to lower" must be understood to cover the changing of all types of signal from their "on" to some less restrictive indication, the expression still being retained throughout the rules. What is wanted is some wording generally applicable without any qualifying explanation and we should think that "to clear," long in general use in America, might very well be adopted for the purpose, as it is independent of the actual form of the signals.

British Railways and the War—47



Above: An L.M.S.R. roof spotter in action at a locomotive shed during an "alert," ready to give warning of immediate local danger. The view was taken on November 29



Above: Bunks in an unfinished section of the eastern extension of the Central Line, London Transport, which is in use by the local authorities as an air raid shelter. Sleeping arrangements on the uncompleted sections of tube in East London, made at the request of the Minister of Home Security, were referred to at page 390 of our October 11 issue



Right: Y.M.C.A. rest room at Liverpool Street station, L.N.E.R. Additional rest accommodation during the late hours of the night and the early hours of the morning is available in trains stabled in the station

RAILWAY NEWS SECTION

PERSONAL

Mr. J. S. H. Grant, Secretary to the Rhodesia Railway Commission, has been appointed to act as a member of the Commission during Mr. F. H. Lowe's absence from Bulawayo on war service in connection with the Northern Rhodesia Government.

General Sir Bindon Blood, Chief Royal Engineer, has left estate valued at £1,785. A short biography of Sir Bindon Blood, who died on May 16 in his 98th year, was published in our May 24 issue.

Sir Campbell Stuart has been elected a Member of the Algoma Central & Hudson Bay Railway Company and the Algoma Central Terminals Bondholders' Committee.

COLONIAL OFFICE APPOINTMENTS
Mr. G. H. Bransom, Running Shed Foreman, to be Chief Running Inspector, Nigerian Railways.

Mr. M. L. Cobb, Senior Engineer, Tanganyika Railways, to be Chief Engineer, Way & Works, Malayan Railways.

Mr. W. H. J. Moull, Chief Running Inspector, to be Assistant Mechanical Officer, Nigerian Railways.

INDIAN RAILWAY STAFF CHANGES

Mr. P. W. Wilton Davies, Mr. W. A. Anderson, and Rai Bahadur A. N. Sud have been promoted to be Deputy Chief Engineers, State Railways, in a provisionally permanent capacity.

Mr. J. C. O'Neill has been confirmed as a Deputy Chief Engineer, State Railways, as from July 24.

Mr. I. S. Puri has been appointed to officiate as Financial Adviser & Chief Accounts Officer, N.W.R., as from August 19.

Mr. T. McIntyre, Bridge Engineer, E.B.R., has been granted six months' leave as from October 7.

Mr. H. G. Salmond, Deputy General Manager, E.B.R., has, on return from leave on September 17, been appointed to officiate as Senior Government Inspector of Railways, Circle No. 5, Bombay, with the rank of Chief Engineer, State Railways.

Mr. S. E. L. West, O.B.E., V.D., has been confirmed as Director of Traffic, Railway Board, as from July 1.

Mr. P. K. Sarkar has been appointed to officiate as Deputy Chief Accounts Officer, E.B.R., as from August 1.

Mr. J. S. de V. von Willich, System Manager, Cape Town, South African Railways & Harbours, has been appointed Chief Civil Engineer, Johannesburg. Mr. von Willich joined the service of the Cape Government Railways in 1901, and became first an assistant draughtsman and later draughtsman on various railway construction works in the Cape until 1907.



Mr. J. S. de V. von Willich

Appointed Chief Civil Engineer, South African Railways & Harbours, Johannesburg

He then studied Civil Engineering at Cape Town University and rejoined the South African Railways in October, 1911, in Johannesburg as Assistant Engineer, remaining there until the end of 1913. He was engaged upon railway construction work until 1915, after which he carried out investigations into the wear of rails and wheel tyres on the Natal main line which led to very successful results. In 1918 he was appointed Assistant Chief Draughtsman and became Chief Draughtsman in 1922. Among other responsible work he redesigned the permanent way standards of the South African Railways. Mr. von Willich

was sent to London in 1928 as Advisory Engineer to the High Commissioner and held this position for two and a half years. On his return to South Africa Mr. von Willich was appointed System Engineer at Cape Town and thereafter he became successively System Manager at Kimberley, East London, Durban, and Cape Town. He holds an Honours B.Sc. in Civil Engineering, at the University of Cape Town, is an Associate Member of the Institute of Civil Engineers, and a Vice-President of the South African Society of Civil Engineers.

Mr. David Watson Barrie, District Goods & Passenger Manager, Perth, London Midland & Scottish Railway, is to retire shortly, after 50 years as a railwayman. Mr. Barrie began his career in 1890 as a clerk in the service of the Caledonian Railway, and two years later became booking clerk at Auchtermarder. In subsequent years he held positions at various stations as booking clerk and parcels clerk. In 1898 he joined the clerical staff in the District Superintendent's office at Perth and was a relief clerk in 1902. He acted as clerk and inspector in the General Superintendent's office from 1903 until 1910 when he was appointed Chief Clerk in the Timetable & Advertising Department, also of the General Superintendent's office. In 1916 he was made Assistant Superintendent of the Line, and in the following year, District Traffic Superintendent at Dundee. In September, 1924, he was appointed District Traffic Superintendent of the L.M.S.R. at Dundee. Mr. Barrie was awarded the O.B.E. for his services in connection with transport in the 1914-1919 war.

We regret to record the death in Johannesburg on October 13 of Mr. J. R. Fulton, a member of the Electricity Supply Commission of Southern Rhodesia and one-time member of the Rhodesia Railway Commission. Mr. Fulton, who was born in Glasgow, went to the Transvaal in 1889 to join the railway service. In the South African war he served in the Imperial Military Railways, and later joined the Central South African Railway as Chief Rate Clerk at Johannesburg. After the amalgamation of the railway system at Union in 1910, Mr. Fulton became Divisional Superintendent of the South African Railways at Port Elizabeth and

later at Kimberley. After retiring from the railways he joined the Electricity Supply Commission at Johannesburg, proceeding to Southern Rhodesia in 1927, when he was appointed a member of the Railway Commission on which he served until 1935. Mr. Fulton remained in the Colony as a member of the newly-constituted Electricity Supply Commission.

Sir James Milne, K.C.V.O., C.S.I., General Manager, Great Western Railway Company, has been re-elected Chairman of the General Manager's Conference of the Railway Clearing House for the year 1941, at a meeting of the General Managers held on December 3.

We regret to record the death on November 21 of Mr. Charles William Edwards. Mr. Edwards, who was in his 80th year, was for over 50 years in the service of the London, Brighton & South Coast Railway and of the Southern Railway. He was Assistant Audit Accountant, Southern Railway, when he retired at the end of January, 1924.

Messrs. Merz and McLellan announce that they are taking into partnership Mr. Charles Lord Blackburn and Mr. Thomas Graeme Nelson Haldane who have been members of their staff for a number of years.

We regret to record the death on September 9 at his home near Paris, in German-occupied France, of Mr. H. H. Waters. Mr. Waters entered the



The late Mr. H. H. H. Waters
General Goods & Passenger Agent, L.M.S.R.,
Paris, 1927-1928

service of the London, Chatham & Dover Railway at the Paris Office in 1887. He was subsequently appointed Agent in Paris to the London & North Western Railway. He was General Goods & Passenger Agent to the London Midland & Scottish Railway from 1927 until December, 1928, when he retired. His father, the late Mr. George Waters, opened the first office of a British railway company in Paris in 1863, as Agent of the London Chatham & Dover Railway.

Mr. A. J. Grant, the Managing Director of Thos. Firth & John Brown Limited, has re-joined the board of John Brown & Co. Ltd. Mr. S. W. Rawson has joined the board of Thos. Firth & John Brown Limited and will act as Sales Director in succession to the late Mr. E. Dixon. Mr. M. Firth, a Director of Thos. Firth & John Brown Limited, has been appointed to assist the Managing Director as Director of Miscellaneous Services, and will continue to co-ordinate the company's wartime emergency programme on which he has been particularly engaged since its inception. The Hon. Charles M. McLaren, a Director of John Brown & Co. Ltd., has also been appointed a Director of Thos. Firth & John Brown Limited.

Mr. C. W. Wells, General Freight Agent, Montreal, Canadian National Railways, has been transferred, in the same capacity, to Toronto, headquarters of the Central Region. Mr. J. F. Stock has been appointed General Freight Agent at Montreal in succession to Mr. Wells.

Mr. F. W. Mottley, European Freight Manager, Canadian Pacific Railway, in London, will act as European Manager of the company during the period that Mr. J. C. Patteson continues to be on loan to the British Ministry of Supply as Director General of Transportation. We recorded Mr. Patteson's appointment at page 491 of our issue of November 8.

STAFF AND LABOUR MATTERS

Engineering Wages

The national committee of the Amalgamated Engineering Union, meeting at Southport on November 28, decided by 25 votes to 11, to refer to the National Arbitration Tribunal its claim for an advance of 3d. an hour and the restoration of the pre-June, 1931, working conditions. The President, Mr. J. Tanner, said that the employers, who had rejected the claim, did not attempt to deny that they were making profits at a high rate, but they said that if an increase of wages were paid the Government would have to foot the bill, since they would pass on the increase either by raising prices in armament contracts or by paying less in excess profits. The union's application, he said, was rejected not because the industry was not in a position to meet the increased charge, but because the employers said it would not be in the interests of the country. Was there any suggestion, he asked, that the engineers were trying to exploit the war in their own interests? If so, it was emphatically untrue. They were satisfied that their demand was fair, reasonable, and fully justified. He said they resented the idea that this particular group of employers should set up as arbiters and judges of what is

in the best interests of the country. "We are still a democratic State" he declared. "It is not for the engineering employers, or any other set of employers, to say what is in the best interests of the country."

An amendment was moved that negotiations should be reopened forthwith with the employers on the original demands and that to enforce them the members should be prepared to withdraw their labour. It was stated by one speaker that they had not given up their right to strike and that the circular issued by the Minister of Labour had no legal basis. Feeling against strike action was strong, and the President warned the delegates "Unless this war is won we are finished." Another amendment instructed the executive to make immediate application to the National Arbitration Tribunal to consider the wage claim without prejudice to any further claims or the union's freedom of action, and this was carried.

Mr. J. Marchbank, General Secretary of the National Union of Railwaymen, writing in *The Railway Review*, states "It would seem that the intrinsic merits of the engineering workers' case have been set aside by the employers association, in a decision that practi-

cally dictates trade union wage policy. I say emphatically that it is not the business of employers' organisations, whatever the industry or service concerned, to lay down the law on economic policy for the whole country in this way. The specific ground upon which this particular group of employers has declined to consider a war wage advance are not within its competence to decide. In refusing to concede the engineering workers' claim on these grounds the employers have taken it upon themselves to prescribe a policy which, in my view, it is the responsibility of the War Cabinet to formulate. It is to be hoped that Ministers representing our organised movement in the War Cabinet and in charge of important departments will be vigilant in this matter. It should be the subject of further discussion by the joint consultative committee representing the T.U.C. and the Employers' Confederation in order to see whether there are general principles upon which agreement can be reached; but ultimately it will lie with the War Cabinet to lay down a clear ruling on the problem of controlling both wages and prices so that any rise of the price level or readjustments in relation to cost of living necessitated by movements of prices shall be reflected in the movements of war wages. That seems to me to be essential."

TRANSPORT SERVICES AND THE WAR—67

Half-rate season tickets for juvenile workers—Health in tube station shelters—Transport and Christmas postal arrangements—The Pioneer Corps—Norwegian railway disorganisation—European timetable changes

Since December 1 half-rate season tickets have been issued to juvenile workers under 18 years of age receiving a gross income from all sources of not more than 25s. a week, instead of 18s. as heretofore. Weekly half-rate tickets were introduced on the same date. The tickets may be purchased at station ticket offices, on submission of a duly completed certificate form. For weekly tickets a certificate need be submitted only on the occasion of the first application in each calendar month. For monthly or longer period tickets a certificate must be submitted with every application. These arrangements apply to all the main-line railways, and to the London Transport railways including the Metropolitan & Great Central, the Hammersmith & City, and the East London joint lines.

Deep-Level Tunnel Shelters

The Minister of Home Security, Mr. Herbert Morrison, announced on November 27 that he had sent a circular to all local authorities stating that deep tunnel shelters should be confined to areas where shelters were likely to be used regularly for sleeping and to places where the strata are favourable, and where, for instance, the rock is a sound limestone, sandstone, or chalk, and outcrops fairly steeply. Mr. Morrison said that he hoped to place the most highly skilled technical advice at the disposal of local authorities who saw

opportunities for tunnel shelters on these lines. In London plans for tunnels from the tube stations were in hand and there was no need for London local authorities to take further action. It will be recalled that, at page 496 of our November 8 issue, we referred to tentative arrangements whereby short tunnels will be bored from certain London tube stations so as to increase the space available for shelterers without further interfering with traffic.

Health in Tube Station Shelters

Two of the important problems provided by the presence of large numbers of all-night shelterers in tube stations—to which we have already called attention in these columns—are both associated with the maintenance of public health; namely, the provision of adequate sanitation, and of first aid facilities. As tube station platforms are below drainage level, sanitation can be provided only by the installation of chemical closets; and these raise the problem of disposal. At present, the Metropolitan boroughs undertake the task of clearing the containers by manual labour, but steps have already been taken to instal more satisfactory arrangements, and during the past few days sewage ejector plants have been erected at Kings Cross, Manor House, and Piccadilly Circus stations. The apparatus consists of a hopper, into

NOTICE OF INCREASE IN DOCK CHARGES

NOTICE IS HEREBY GIVEN that pursuant to The Railway-owned Harbours Docks and Piers (Increase of Charges) Order, 1940, the rates dues and other charges (other than the charges as mentioned below to which the Order does not apply) in force on August 31st, 1939, at this and other of the Railway-owned Harbours Docks and Piers named in the Order will be increased on and from the first day of November, 1940, as follows:—

- | | |
|--|--|
| (1) Rates dues and other charges on coasting liners, when carrying mixed cargoes of merchandise and operating on regular scheduled services, and on the cargoes of such liners | By 7½% (subject to the Fractions Rule set out below) |
| (2) All other rates dues and charges | By 20% (subject to the Fractions Rule set out below) |

FRACTIONS RULE

If any increased rate, due or other charge includes a fraction of a farthing, the fraction if less than half a farthing shall be dropped, or if the fraction amounts to half a farthing but is less than a farthing it shall be charged as a farthing.

CHARGES TO WHICH THE ORDER DOES NOT APPLY

- (a) Labourage charges which have been varied since the 3rd September, 1939, or which may be varied in consequence of alterations in the rates of wages.
- (b) Any charges in respect of through traffic which have been increased or may be increased hereafter under the provisions of the Railways (Additional Charges) Order, 1940, or any Order modifying such Order.

October, 1940

BY ORDER,
THE RAILWAY EXECUTIVE COMMITTEE

NOTICE OF INCREASE OF RAILWAY CHARGES

NOTICE IS HEREBY GIVEN that, pursuant to the Railways (Additional Charges) No. 4 Order 1940, on and from 1st December, 1940, the additional charge of 10 per cent. operative on and from 1st May, 1940, on fares, rates, tolls, dues and other charges from time to time in operation will be increased to 16½ per cent. (subject to the application of Fractions Rules) with the following exceptions:—

- (i) Workmen's Fares and Season Ticket Charges.
- (ii) Ordinary Fares on the railways of the London Passenger Transport Board as defined in the Order.

The increase will also apply to fares, rates and other charges for the carriage of passengers and merchandise involving carriage by water to places in Great Britain, Isle of Man, Northern Ireland and Eire.

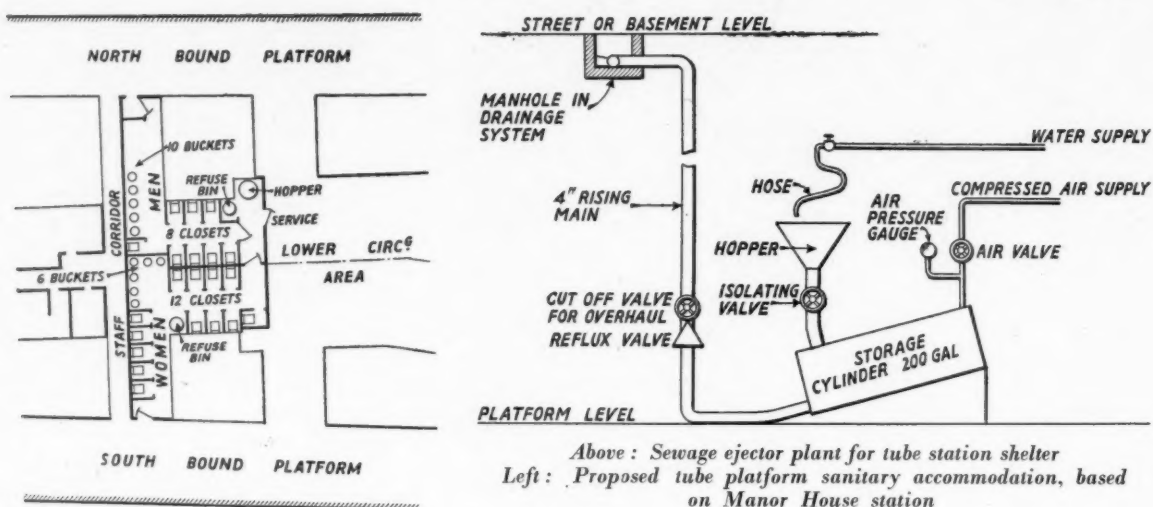
On and from 1st December a similar increase will be applied to the charges for services rendered and accommodation provided by the Railway Companies and the London Passenger Transport Board incidental to the carriage of merchandise and passengers.

Detailed particulars of these increases may be obtained upon request at any Railway Station or Depot.

BY ORDER,
THE RAILWAY EXECUTIVE COMMITTEE.

BRITISH RAILWAYS

The above posters have been issued by the Railway Executive Committee to announce recent increases in charges. That on the left relates to the dock Order which became effective on November 1; that on the right to the further increase in British railway charges which was introduced last Sunday



Above: Sewage ejector plant for tube station shelter
 Left: Proposed tube platform sanitary accommodation, based on Manor House station

which the containers are tipped, that drains into a storage cylinder of 200-gal. capacity. The hopper is fitted with water supply and a hose for washing out the containers. The cylinder is set at an angle, as shown in the accompanying sketch. From the lowest point a 4-in. pipe is taken up to a manhole in the drainage system of the upper station. The lifting power is taken from the London Transport compressed-air signal main, and the pressure is between 45 and 60 lb. per sq. in. The air supply is throttled down by an $\frac{1}{4}$ -in. nipple. The rising main is fitted with a reflux valve near the tank to prevent any back-flow. To eject the contents of the cylinder it is necessary only to close the valve isolating the hopper, and then to turn on the compressed air. The movement of the needle on the air pressure gauge indicates when the cylinder is emptied. The vertical height varies between 35 and 130 ft. at different stations. In the case of Piccadilly Circus, which we inspected on Tuesday night, the contents of the tank are lifted about 100 ft.

A further step in the provision of sanitary accommodation at platform level has been taken by London Transport in laying out an experimental installation as shown in the accompanying sketch plan. Where sufficient space is available, this scheme (which has been modelled on Manor House station) provides for the grouping of cubicles erected in pre-cast concrete units, with a hanging curtain to act as a door.

On Tuesday also, we were afforded facilities for seeing in action the first aid post at Notting Hill Gate station. Here the Royal Borough of Kensington has co-operated with London Transport in the provision of a medical centre which it is hoped will simplify the task of other local authorities in providing a basis for standardising methods and equipment. The layout of a typical medical centre is shown in one of the accompanying drawings.

Transport and the Christmas Postal Arrangements

In a statement made by the Right Hon. W. S. Morrison, Postmaster-General, at a press conference held at the Ministry of Information on November 27, he outlined the special difficulties with which the Post Office will be confronted in handling Christmas mails this year. He pointed out that communications are vital to the prosecution of the war, and said that as a consequence they had been made a special target for enemy bombers. Moreover, it was not possible, for security reasons, to give details of the damage. The Post Office was always dependent on efficient road and rail transport, and special plans had been prepared to meet every likely contingency. Arrangements had been made for 150 special trains, composed of more than 4,000 vehicles, to run during Christmas week solely for Post Office purposes. The Post Office tube railway would be in full operation, carrying some 400,000 letter bags, and a quarter-of-a-million parcel bags.

The Pioneer Corps

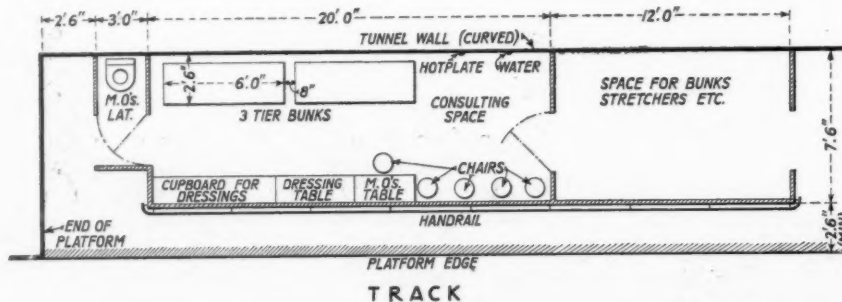
The Secretary for War in a written Parliamentary reply last week stated that, in view of the services which the Auxiliary Military Pioneer Corps has rendered, the King has approved a change of title to the Pioneer Corps. Consideration of the grant of the distinction "Royal" would follow the normal practice and be deferred until the end of the war.

Belgian Refugees Join the Fighting Forces

A party of Belgian refugees who came to this country at the time of the German invasion of their country have now joined the Belgian Forces in Great Britain, and on December 2 left a London station to join the main body of their countrymen who are fighting alongside the British and their other Allies.

Railway Disorganisation in Norway

News reached this country on November 27 from Stockholm (apparently originating with the Oslo correspondent of *Dagens Nyheter*) that a series of virtually simultaneous rock slides had severed the Oslo-Bergen railway in about a dozen places. Sabotage is regarded as the most probable explanation, and a state of emergency has been proclaimed in a large part of south-west Norway. German troops are



Left: Typical arrangement of medical aid post for a London Transport tube platform. This is being regarded as a model which it is hoped will simplify the task of local authorities by providing a basis for standardising methods and equipment

stated to be patrolling railways and main roads in an effort to prevent further incidents of this kind, and the German military authorities are understood to have drafted many thousands of soldiers to repair the damage.

Restricted Christmas Travel in Germany

The Reichsbahn broadcast an appeal on November 22 asking Germans to refrain from unnecessary travel during the Christmas period, namely, between December 20 and January 1. The reason given was that pleasure and leave traffic should not be permitted to interfere with the important tasks which the German railways were undertaking. It was also announced that on certain trains no passengers would be allowed to travel during this Christmas period without special permission.

Winter Train Services in Germany

Numbers of trains, mentioned in the German winter timetables as to be put into operation only after further notice, are to be available for limited civilian use; these trains are styled SF and SFD trains. The charge for sleepers has been increased for long distances. Examples of new first class sleeping car charges are: Berlin—Russian frontier 29 marks, Munich—Dortmund 29 marks, Berlin—Königsberg 25 marks, Munich—Düsseldorf 25 marks, Berlin—Paris 44 marks, Brussels—Paris 15 marks. Second class sleeper charges are half those for first class.

Train Services in Holland

Electric trains are now running on all electrified lines in Holland except the southern section of the Utrecht—Eindhoven line. The bridges across the Waal and the Meuse are still out of use, and passengers from the South are carried by three bus and two ferry sections between s-Hertogenbosch and Waardenburg station, on the north bank of the Waal, a distance of 11 miles. Electric trains are in operation north of Waardenburg.

Many of the smaller stations which were closed to pas-

senger traffic when the Netherlands Railways introduced their rigid timetables a few years ago, have been reopened.

German Control of French Transport

The unrestricted use by Germany of the railways between Paris, Marseilles, and Toulon, is reported by neutral sources to be included in the latest German demands on the Vichy Government. It is said that this is part of a scheme for the surrender to Germany of all French ports in return for a promised extension of the area of "unoccupied" territory. The obvious implication is a German desire to control the French Mediterranean ports so as to facilitate large-scale German assistance to Italy. Unrestricted use of the railways in question would be a necessary concomitant.

Slovak Freight Rates Increased

The Slovak State Railways have increased their freight rates by 15 per cent. from November 1.

Railways in the Baltic States

The railways of Estonia, Latvia, and Lithuania have now been incorporated in the U.S.S.R. Railways, and management divisions have been established at Tallinn, Riga, and Vilna. Operating sub-divisions are at Tallinn, Tartu, and Moisakula in Estonia; Riga, Daugavpils (Dvinsk), Gulbene, Jelgava (Mitau), and Libau in Latvia; and Vilna, Siauliai, and Kovno (Kaunas) in Lithuania. A count of the rolling stock available in the three divisions has been ordered. According to the statistics of the former administrations, the three divisions possessed 740 locomotives, of which 276 were broad gauge (5 ft.), 192 standard gauge, and 272 narrow gauge (600 and 750 mm.); 1,800 passenger vehicles—948 broad gauge, 414 standard gauge, and the remainder narrow gauges; 14,300 goods wagons—7,550 broad gauge, 4,750 standard gauge, and the remainder narrow gauges; and some broad-gauge and standard-gauge diesel stock.

A daily through express has been operated for some time now between Moscow and Riga.

Institute of Transport Twenty-First Birthday Luncheon

Speech by Colonel Moore-Brabazon

The Minister of Transport, Lt.-Colonel J. H. T. Moore-Brabazon, M.C., M.P., was the principal guest at a lunch held by the Institute of Transport at the Connaught Rooms, London, W.C.2, on December 4. Mr. T. E. Thomas, President of the institute, was in the chair.

In introducing the Minister, Mr. Thomas said that the luncheon coincided as nearly as possible with the twenty-first birthday of the institute. Speaking of the value of institutions of this kind, he said that whatever the Institute of Transport had not done, it had certainly won recognition for transport as a science and a profession. It had raised the status of those engaged in transport, and it had been the means of resolving business acquaintance into social friendship. Members of the institute would greet Colonel Moore-Brabazon as a man as well as a Minister. He had taken an office of particular stress at a time of peculiar difficulty.

The Minister of Transport paid warm tribute to the way in which Mr. Thomas and officers of the London Passenger Transport Board had met the disabilities inherent in intensified air attack on London. There was not a single Londoner who should not pay respect and offer thanks for the way in which the board had struggled with its problems during recent times.

From the point of view of the railways, there was a very lopsided job to be done these days. First of all they had to deal with vastly increased traffic at certain ports and all that implied, and in addition to cope with a very large import programme. They had to arrange for the movement of troops in very large numbers and also for the transport of coal which, because of the changeover from coastwise shipping routes, now had to be moved over routes and in directions it had never taken before. Then there was also the problem of passengers to be solved. He stressed, too, the difficulties which arose in obtaining a quick turn-round of

wagons, which he described as the "convenient store-houses of traders." The railways had been doing an excellent job in peace and had suddenly had the great weight of wartime traffics and movements thrust upon them. The blackout was another factor which caused great difficulty and delay in shunting operations, for they often had to be conducted in complete darkness.

One of the difficulties they had to face was the possibility of taking the public into their confidence as to the reasons for delays in trains and interruptions of services. If members of the public saw a bomb crater they quite understood that, but did not appreciate the difficulties inherent in the unexploded bomb or the dislocation of signalling. He paid tribute to the work done by Sir Ralph Wedgwood and the members of the Railway Executive Committee, and said that among the day-to-day problems faced by the committee were whether it should move the army, or clear the ports, or shift passengers, or transport coal. The job with which the R.E.C. and he were concerned was to get traffic to flow.

Speaking of road and rail interests, and the "square deal," the Minister said the two parties were now getting on much better. Everything on wheels was wanted, and would be used; they had reached that stage. Thus it had come about that the previously warring factors were getting on much better terms with one another. One day he hoped to see a full union.

The Minister concluded by paying high tribute to the manner in which lorry drivers and engine drivers pursued their task with indifference to the consequence of enemy action on their own safety. In particular, he admired the manner in which signalmen ignored enemy raiders. This war might prove to be a very long haul, but the job both of the Institute of Transport and of his Ministry was to keep the wheels turning.

RAILWAY AND OTHER MEETINGS

The Buenos Ayres & Pacific Railway Co. Ltd.

The ordinary general meeting of the Buenos Ayres & Pacific Railway Co. Ltd. was held on November 28 at Winchester House, Old Broad Street, London, E.C., Mr. J. A. Goudge, C.B.E., the Chairman of the company, presiding.

The Secretary (Mr. C. Ellison Rich), having read the notice convening the meeting and the auditors' report,

The Chairman, in moving the adoption of the report and accounts, said that the salient points of the report were two: the decreased tonnage carried and the reduction in expenditure.

The wheat harvest at the end of 1939 was relatively poor, and provided only 427,000 as against 655,000 tonnes for transport. The maize harvest early in 1940, however, gave a very good crop, but unfortunately the war had completely suspended its export, for all the large consumers in Europe were out of the market, and the bulk had remained in Argentina. A large proportion of this had been not even shelled when the company's accounts closed at June 30, when there had been no less than 664,000 tonnes along the line awaiting better times.

The one traffic which counter-balanced losses was that of petroleum from Mendoza. He was glad to say that this field had continued to fulfil the promise of becoming a heavy producer. It gave the company £100,000 more this year than last and there was no reason to doubt that the coming year would show a further increase.

In his speech last year he had stressed the importance of the exchange question; and had stated that war conditions should tend to improve the sterling value of the Argentine currency. There was a decrease in the total loss on exchange, but he had not foreseen the very effective and comprehensive measures taken by the financial authorities here, which had secured a stable price for sterling throughout the year. These measures were carried through with the aid of the Argentine authorities, and this fact lent strength to the board's constant endeavours to secure from that Government some further alleviation in the heavy charge made before peso profits could be remitted.

In view of the collapse in the world price of maize and the resulting losses to producers, Argentina had decided to take large quantities off the market, and to facilitate this, requested the company to reduce maize tariffs. The directors had agreed; but at the same time pointed out that traffics were decreasing, that the company was heavily indebted to debenture holders, and that many years had passed since any dividend had been paid. In the matter of exchange, it would be possible to give some recognition of effort to help the maize producer. The directors were still awaiting the fulfilment

of a promise made by the Ministry concerned, that something would be done to help the company's revenue this year.

The possibility of the incursion into South America of the dictator countries had aroused as much interest there as in the United States, and the foreign financial interests in Argentina had taken on at once a new aspect to those who realised the importance of any possible change in the ownership of the capital invested there. A private member's Bill had been put forward in the Senate, outlining a scheme for the "nationalisation" of all the railways, by the issue of Government Bonds.

It was referred to Committee of the Senate, and the company had been asked by that committee for its views. As they were subject to a national expropriation law, the reply would probably be that they respected that law, and that the matter for discussion would mainly be the amount and form of the compensation to be received.

The directors had heard nothing further from that committee nor was there any indication yet of Governmental views, but they had since seen that in the Chamber of Deputies a member had also indicated the advisability that some steps should be taken to secure that the control of such vital public services should not pass into foreign hands which might exert pressure and influences antagonistic to the national interests. That member had been good enough to say that the Argentine could, after the experience of many years, trust the British, but there were other powers with whom the country did not share that well-founded mutual confidence and respect.

The immediate prospects of the company would be vastly improved if Government action could secure the export of the large maize crop. Very much depended on that movement. Otherwise, with the certainty of rising costs of coal and materials, it would be impossible to look forward to the maintenance of last year's results. The weekly traffic returns would show when the maize was moving.

The company had paid since last year one full year's interest on the Buenos Ayres & Pacific 4½ per cent. consolidated debenture stock and the Argentine Great Western 5 per cent. debenture stock. These payments had been made partly out of funds already accumulated, for the year's profits had not sufficed to meet the total distributed.

He expressed thanks to the committee representing the debenture holders for the consideration with which it had treated all matters coming up for discussion. The important expense for tank wagons required for petroleum transport, petrol passenger railcars and other outlays of the kind were details thoroughly and favourably considered by that committee during the year.

The resolution was seconded by Mr. W. Howard-Williams, C.B.E., and was carried unanimously.

The Chairman then proposed, and Mr. R. J. Nowley, C.B.E., seconded, the re-election of Mr. Howard-Williams to the board; the resolution was carried unanimously.

On the resolution of the Chairman, seconded by Mr. J. M. Eddy, C.B.E., Mr. R. P. W. Adeane was unanimously re-elected a director.

The auditors were reappointed and the proceedings closed with a vote of thanks to the chairman, directors, and staff.

The Madras & Southern Mahratta Railway Co. Ltd.

The ordinary general meeting of the Madras & Southern Mahratta Railway Co. Ltd. was held at Guildcroft, Epsom Road, Guildford, on December 2. Brig.-General Sir Charles L. Magniac, C.M.G., C.B.E., presided.

The Secretary (Mr. V. Craster, O.B.E.) having read the notice convening the meeting and the auditors' report and certificate,

The Chairman, Brig.-General Sir Charles L. Magniac, C.M.G., C.B.E., in moving the adoption of the report and accounts, said that the outlay under capital had amounted to Rs. 15.69 lakhs; over half this was for rolling stock and the balance mainly for structural works. There was no new construction during the year.

Comparison of gross earnings with a pre-war year was difficult. Coastal services between Mormugao Harbour, Bombay, and other ports had been seriously interfered with, owing to inability to secure shipping space and

increased war risks. It was satisfactory to note that the total gross earnings amounted to Rs. 792.27 lakhs or Rs. 37.82 lakhs more than in 1938-39. Coaching receipts showed an increase of Rs. 5.64 lakhs, goods earnings Rs. 31.47 lakhs and sundries Rs. 0.71 lakh. The principal increases under goods were in coal, grain, oilseeds, and cotton, and the decreases in ground nuts, gram and sugar.

Increases occurred under third and inter-class passengers and a fall under both first and second class. A good mango crop contributed to improved coaching earnings. Steps continued to be taken to stimulate traffic and improve earnings by feeder bus services, cheap fares, and reduction in the loss on working unremunerative branch lines. Working expenses at Rs. 444.37 lakhs showed an increase of Rs. 8.77 lakhs compared with 1938-39, mainly under maintenance and supply of locomotive power. The ratio of working

expenses was 56.10 per cent. compared with 57.70 per cent. for the previous year.

Net earnings of the entire railway system for the year 1939-40 amounted to Rs. 347.89 lakhs compared with Rs. 318.85 lakhs for the previous year, an increase of Rs. 29.04 lakhs. The surplus profits received were £62,158 against £59,692 for the previous year, an increase of £2,466.

The sum in the stockholders' revenue account available for distribution in the year was £114,561 and out of this an interim dividend of 2½ per cent. was paid in July last. It was now recommended that a final dividend should be paid in January next of 3 per cent., 1½ per cent. guaranteed interest, ¼ per cent. from stockholders' revenue and 1 per cent. from the reserve fund. This would make a total return of 5½ per cent. for the year, the same as for 1938-39. The carry forward would be about £68,000 compared with £50,000.

The Chairman recalled that he had on former occasions dealt with the difficulty experienced by the company in combating competition from road vehicles, which had been increasingly felt in recent years. Recent legislation, such as the Indian Motor Vehicles Act and the Madras Motor Vehicles Rules, had altered the position considerably; railways were now recognised as established means of transport with a right to a hearing before the various traffic boards which had been set up. The railways' case against unbridled competition, in many instances, had been presented to the traffic boards effectively and had resulted in the reduction or refusal of licences for lorries and buses, when the granting of them would be wasteful and redundant.

In the last war, the stockholders had voted a total of over £12,000 as subscriptions to various funds and a similar question has been raised in connection with the present war. As far as the stockholders' revenue account was concerned, the financial position under the new contract was not so favourable as it was in the years 1914 to 1918; therefore the Directors felt that they would not be justified in asking members to contribute on such a large scale as previously. However, subject to the concurrence of the stockholders, it was suggested that the directors might be empowered to make subscriptions to War Funds up to a total sum of £2,000.

The audited results of working for the first half of the financial year ended September 30, 1940, compared with the similar period of last year, showed an increase in gross earnings of Rs. 15.14 lakhs. Working expenses were down by Rs. 13.23 lakhs, and net earnings up by Rs. 28.37 lakhs. The traffic returns to the middle of November also showed an improvement of Rs. 20 lakhs. The forecast for the second half of the year was unfavourable and

included a drop in net earnings of about Rs. 22 lakhs due mainly to an increase in working expenses.

Sir Charles Cunningham seconded the resolution which was carried.

The Chairman then moved: "That for the half-year ending December 31, 1940, a dividend of £1 5s. per cent., in addition to the guaranteed interest of £1 15s. per cent. to be received from the Government, or £3 per cent. in all, be paid on the company's capital stock on January 1 next to all ordinary stockholders on the register on December 15." Colonel Bonham-Carter

seconded and the resolution was unanimously carried.

Sir Maurice Braysbay proposed the re-election of Sir Charles Banks Cunningham and Lt.-Colonel Herman Bonham-Carter, the retiring directors. Sir Francis Couchman seconded, and the resolution was carried.

Mr. G. W. V. de Rhé Philipe proposed and Lady Magniac seconded the re-election of the auditors.

The resolution was carried.

The proceedings terminated with a vote of thanks to the Chairman, directors, and staff.

Central Uruguay Railway Co. of Monte Video Ltd.

The annual general meeting of the Central Uruguay Railway Co. of Monte Video Ltd. was held in London on December 3.

The Chairman, Brig.-General F. D. Hammond, who presided, in moving the adoption of the report and accounts, explained the effect of the improvement which had taken place in the value of the peso, and issued a warning that 71 per cent. of the expenses, which were in currency, would rise in sterling in proportion to the exchange, and also that a large part of the remaining 29 per cent. was subject to increased costs due to the war.

Dealing with the receipts he said that passenger traffic showed a decrease of 1 per cent., but with the re-introduction of diesel passenger coaches hired from the State Railways, which had been out of service for many months for modification, it was hoped to provide the speed and comfort necessary to combat road competition. Traffic in timber from Brazil increased due to diversion to the railway of much of this trade previously carried by sea or river. Life-stock traffic also increased by 6 per cent. over the previous year.

Expenditure had risen by increased costs of fuel oil, materials, the numerical strength of track labour, and an increase in the minimum wage. Owing to these causes the balance on net revenue was slightly reduced in pesos, but owing to the improvement in exchange there was an increase of £30,396, or 15 per cent.

Referring to the receipts from Government guarantees, after lengthy negotiations regarding the difference of opinion between the Uruguayan Government and the company on the appropriate exchange rate for the calculation of amounts due, the former, while repudiating part of the claim, offered £63,751, with an acceptable basis for remaining period which ends in 1941, in full settlement. As the alternative was a complicated and lengthy lawsuit, the board accepted. The receipt of this sum, together with a credit of £14,093 from exchange, came at an opportune time, and had assisted the renewals works.

As he had said last year, certain renewals of track had to be undertaken at once and a programme of such renewals covering a period of years was essential. The company was fortunate

in having 45 kilometres of rails bought in happier times which had, owing to the financial crisis, not been used. During the year 19 kilometres were completed, and of the balance for this year much of the preliminary expenditure had been charged in the 1939/40 accounts.

The general outlook, which had been distinctly better just before the end of the financial year, suffered an abrupt change in July. With the entry of Italy into the war and the collapse of France, the principal European markets, except Britain, were closed to Uruguay, with the result that markets for half the produce were cut off. Adverse weather intensified the decreased traffics, and gross receipts for the first three months were 14 per cent. less than last year.

Expenses had increased, principally by a heavy rise in the contract cost of fuel oil as from June, when the last contract ended. If the new price were to continue throughout the year some £73,000 would be added to expenses. Other stores are also considerably dearer than last year. To meet these conditions rates and fares had been increased 10 per cent. since October 15, and although some opposition was experienced from those directly affected, the Government and press had received the company's case with sympathy and consideration.

The Manager had recently reported that though wheat and linseed crops were likely to be affected by adverse weather, maize, rice, and general goods would be normal; the wool market was improving on American purchases. Livestock and its by-products might be adversely affected by European conditions, but timber from Brazil should be excellent. The resumption of rail-car services was improving coaching receipts.

Although the outlook was better than a short time ago, circumstances changed with kaleidoscopic rapidity, but increased expenses were almost a certainty and with the incessant necessity for further renewals this work, which would have to be deferred for the time being, would have to be taken in hand again the instant finances allowed.

The Chairman concluded with a tribute to the Government of Uruguay in its attitude of consideration and

sympathy towards the company in difficult times.

Sir Follett Holt seconded the resolution, which was carried unanimously.

The Chairman then proposed and Mr. A. G. Hunt seconded the re-election of Sir Follett Holt to the board. The resolution was carried unanimously.

Entre Rios Railways Co. Ltd.

The ordinary general meeting of the Entre Rios Railways Co. Ltd. was held on November 27 in London.

Sir Follett Holt, K.B.E., Chairman of the company, in the course of his speech, said that the results of the past year were adversely affected by the exceedingly poor wheat, linseed, and maize crops of the last harvest. The tonnage transported of those cereals was low, being 217,108 compared with 426,164 in the previous year, a decrease of 209,056 tons, the receipts from that source declining by £89,375. On the other side of the picture the most noticeable features were the record traffic in oranges and mandarines, of which 129,611 tons were carried, receipts rising from £120,785 to £146,451, and the heavier cattle and sheep traffic, due to wartime purchases by the British Government, the receipts from that source improving by £38,196.

Thanks to the rigorous control and war economy measures effected by the General Manager and his staff, the working expenses of the railway were reduced despite a considerable rise in the cost of fuel and stores during the latter half of the period under review. Coal, of which the Entre Rios line used about 45,000 to 50,000 tons a year, cost in pre-war days approximately 33s. per ton c.i.f. It was now about 70s. a ton, and the cost of fuel oil and stores had also risen appreciably. That great addition to expenses was felt only for a part of the last financial year, but during the current 12 months they would have to face the full blast.

Due to the heavy calls on cash for coal, oil, and stores, the company had not been able to continue, to the same extent, the reduction it was making in the arrears of interest on the 4 per cent. debenture stock, and only one payment of six months' arrears with the 5 per cent. interest accrued on it had been possible since their last meeting.

The report was adopted.

Forthcoming Meetings

Dec. 10 (Tues.).—Midland Uruguay Railway Co. Ltd. (Ordinary general), River Plate House, Finsbury Circus, London, E.C., at 12.30 p.m.

Dec. 10. (Tues.).—Uruguay Northern Railway Co. Ltd. (Ordinary general), River Plate House, Finsbury Circus, London, E.C., at 12.15 p.m.

Dec. 12. (Thurs.).—Argentine North Eastern Railway Co. Ltd. (Ordinary general), River Plate House, E.C., at 2.15 p.m.

QUESTIONS IN PARLIAMENT

Railway Congestion

Mr. F. S. Cocks (Broxton—Lab.), on November 19, asked the Secretary for Mines whether his attention had been called to the congestion of coal-laden wagons in railway goods yards.

Mr. David Grenfell (Secretary for Mines) said congestion was arising at certain depots from a variety of causes. He had been giving close attention to the matter in consultation with the Minister of Transport and the new House Coal Emergency Organisation. With the full co-operation of the merchants that had been promised he hoped the position would be considerably improved.

In answer to Supplementary Questions Mr. Grenfell said he did not think it was a case of refusing to move coal. The blackout and transport difficulties affected the disposal of coal at the depots as well as elsewhere. He had no evidence that depots were constantly congested, although he knew that a good deal of need existed for the divergence of traffic. It was not always easy to get a coal train moving any more than it was easy to get a passenger train moving. In his department was a Diversion Committee, which met every day and ensured that there was all the diversion possible, in consultation and co-operation with the railway companies. There was no record of long blockages at the depots.

Soldiers' Fares

Mr. G. Gledhill (Halifax—C.), on November 19, asked the Secretary of State for War whether, in view of proposed increase in railway fares, he would recommend that soldiers proceeding on short leave might have special facilities for half-fare tickets.

Mr. Anthony Eden (Secretary of State for War) in reply stated that all members of the Forces were entitled to travel at public expense on two leave journeys a year. On other leave journeys they might travel at the reduced rate of single journey for half single fare, and return journey at single fare. Increase of railway charges had been one of the reasons for the increase of the pay of warrant officers, non-commissioned officers and men by 6d. a day.

First Class Suburban Travel

Mr. J. Parker (Romford—Lab.), on November 20, asked the Minister of Transport whether he was aware that the general overcrowding of the suburban services of the main-line railways during rush hours had been accentuated, that the London Passenger Transport Board had met this difficulty in part by the abolition of first class carriages, and whether he would ask the Railway Executive Committee to adopt a similar policy for all London suburban services.

Lt.-Colonel Moore-Brabazon said he did not think that the abolition of first class travel would result in in-

creasing appreciably the accommodation available on suburban trains. In rush hours and under crowded conditions third class passengers were allowed to occupy first class carriages without further payment.

Facilities at Crewe Station

Mr. Glenvil Hall (Colne Valley—Lab.), on November 20, asked the Secretary of State for War whether he would take steps to provide better facilities for the refreshment and comfort of troops passing through Crewe station.

Mr. R. K. Law (Financial Secretary to the War Office) said that it had been decided to provide at Crewe station a canteen, rest room, sleeping room, cloak room, and lavatory with facilities for washing and shower baths, and the work was about to begin. The work was being expedited. The reason it had not been possible to begin it before was that it had been necessary to reconcile the needs of the troops with the operational requirements of the railway company.

Sleeping Berths

Mr. Alfred Edwards (Middlesbrough East—Lab.), on November 20, asked the Minister of Transport if it was the practice of the railways to give precedence to Government officials and Members of Parliament when allocating sleeper accommodation.

Lt.-Colonel Moore-Brabazon wrote in reply: The answer to the first part of the Question is in the affirmative. The practice of guaranteeing sleeping berths to Members travelling to and from their constituencies before and after sittings of the House has been restored for many months.

Empty Cases

Lt.-Colonel Moore-Brabazon, in a reply to Mr. O. E. Simmonds (Birmingham, Duddleston—C.) on November 20, stated that the railway companies were fully aware of the importance of dealing promptly with returned empties. Traffic considerations might, however, in certain cases necessitate imposing temporary embargoes on this, as on other traffic.

Meal Packets on Trains

Lt.-Colonel Moore-Brabazon in reply to Mr. A. Woodburn (Clackmannan and Eastern—Lab.), on November 27, said that, apart from the Admiralty, which considered that the present arrangements for feeding men on railway journeys were generally satisfactory, the Service Departments had not indicated to him their views on this subject.

Mr. Woodburn: Is the Minister aware that some weeks ago he gave me a promise that the railway companies were considering this matter—not the Service Departments—and is he aware that hundreds of men are travelling on the long-distance trains from 10 to 15 hours at a time and are not able to get to the canteen at wayside stations, so that it is urgently necessary that

some cheap meal packet should be provided for them?

Lt.-Colonel Moore-Brabazon: I am very unhappy and dissatisfied with the feeding arrangements on the railways. The British public, patient as it is, will not tolerate the bad train service existing at present on an empty stomach. It will put up with a lot so long as you can give it food. If the railway companies or I cannot arrange very early a betterment of present conditions, I am going to call in Lord Woolton to review the situation.

Co-ordination of Demands

Captain C. C. Poole (Lichfield—Lab.), on November 27, asked the Minister of Transport what steps he was taking to secure the co-ordination of the rail transport demands of the various service departments.

Lt.-Colonel Moore-Brabazon wrote in reply: Major movements are arranged centrally by the departments concerned with the railway companies' headquarters operating staffs. If more than one department is concerned the arrangements are made jointly. Any necessary co-ordination is undertaken by the Railway Executive Committee and my Railway Control Officer. Local and minor movements are arranged, as they must be, by local movement officers with their railway liaison officers. Steps are being taken to secure a greater measure of co-ordination and, beginning with the ports, it is the intention to set up machinery which is designed to ensure full co-operation between the Service Departments and other Departments such as the Ministry of Supply and Ministry of Food, which are large users of transport.

Railway Wagons

Captain C. C. Poole (Lichfield—Lab.), on November 27, asked the Minister of Transport whether he would consider launching a publicity campaign directed to draw the attention of rail transport users to the need for speedy off-loading of railway wagons.

Lt.-Colonel Moore-Brabazon stated that the delays in the off-loading of railway wagons were engaging his close attention.

Notes and News

Collision near Rotherham, L.M.S.R.—The 9.30 a.m. express from Bradford collided with a coal train between Kilnhurst and Parkgate, near Rotherham, on November 30. The engine of the express was derailed, but there was no serious casualties.

B.S.S. for Reinforced Rubber Hose.—A British Standard Specification for rubber hose with woven fabric reinforcement has been issued. Copies (B.S. 924) may be had from the British Standards Institution, 28, Victoria Street, London, S.W.1. Price 2s. 3d. post free.

Railway Collision in Spain.—The Madrid and Barcelona expresses collided on December 2 at Velilla de Ebro station, and many persons were killed and injured, according to an Associated Press message. Reports of the number of deaths vary from 20 to 50. Velilla de Ebro is on the M.Z.A. main line between Zaragossa and Barcelona.

Chinese Blow Up Japanese Treaty - Signatories' Train.—A Reuters message, dated November 23, from Shanghai states that Chinese guerilla forces are believed to have been responsible for blowing up a train carrying Japanese and pro-Japanese Chinese officials from Shanghai to Nanking for the signature of the treaty between Japan and the Nanking regime there on November 30. Several foreign press correspondents were also on board. The entire railway service between Shanghai and Nanking has been disrupted, and there are reported to have been 100 persons killed and injured, but it is not known whether any Europeans are among them. The train is said to have been blown up just outside Soochow, and five carriages derailed.

Argentine Railway Earnings.—The gross earnings of the Argentine railways (including the State lines) amounted, in the financial year ended June 30, 1940, to 491,069,000 pesos, a decrease of 13,162,000 pesos, or 2.6 per cent., on the corresponding total for the previous financial year. The gross earnings of the British-owned railways, included in the above figures, were

350,489,000 pesos, or 15,381,000 pesos (4.2 per cent.) less than in 1938-1939. The decrease, on the whole system, was almost entirely in goods traffic, earnings on which, at 340,643,000 pesos, were 10,232,000 pesos, or 2.9 per cent. less. Passenger receipts, at 97,036,000 pesos, were only 306,000 pesos, or 0.3 per cent. less. The tonnage of goods, at 41,875,000, was 2,137,000 tons, 4.9 per cent. less, but the total number of passengers, 163,920,000 was 294,000, or 0.2 per cent. more, than in the previous period.

British and Irish Railway Stocks and Shares

Stocks	Highest 1939	Lowest 1939	Prices	
			Dec. 3, 1940	Rise Fall
G.W.R.				
Cons. Ord.	38	21½	33½	—
5% Con. Pref.	92	71	84	+½
5% Red. Pref. (1950) ..	98	83	93½	—
4% Deb.	103	91	105½	+½
4½% Deb.	105½	93½	103½	—
4½% Deb.	110	99	108½	—
5% Deb.	121	109½	112½	—
2½% Deb.	63½	54	62	—
5% Rt. Charge	117	104	111½	—
5% Cons. Guar.	111	96½	110½	—
L.M.S.R.				
Ord.	17	9½	14½	—
4% Pref. (1923)	46½	20	37½	—
4% Pref.	63½	37½	51	+½
5% Red. Pref. (1955) ..	83	58½	73½	—
4% Deb.	98½	85	98½	—½
5% Red. Deb. (1952) ...	109	101½	106	—
4% Guar.	87½	73	84	+½
L.N.E.R.				
5% Pref. Ord.	5½	3½	3	—
Def. Ord.	3½	1½	1½	—
4% First Pref.	38½	19	34	+½
4% Second Pref.	15	7½	11	—½
5% Red. Pref. (1955) ..	55	38	50	—
4% First Guar.	78½	60	73½	+½
4% Second Guar.	68½	47	58	—
3% Deb.	71½	57	69½	—
4% Deb.	93	76	83	—
5% Red. Deb. (1947) ...	106½	98	102	—
4½% Sinking Fund Red. Deb.	104½	96	100½	—
SOUTHERN				
Pref. Ord.	78	46½	46	—
Def. Ord.	19½	7	10½	—
5% Pref.	100	76	83½	+½
5% Red. Pref. (1964) ...	102½	94	87½	—
5% Guar. Pref.	116½	103	111½	+½
5% Red. Guar. Pref. (1957)	112½	102½	102½	—
4% Deb.	103	91½	101½	+½
5% Deb.	118½	109½	110½	—
4% Red. Deb. (1962- 67)	106	98	101½	—
4% Red. Deb. (1970- 80)	102	96	106½	—
FORTH BRIDGE				
4% Deb.	98½	81	87½	—
4% Guar.	95	80	85½	—
L.P.T.B.				
4½% "A"	115	103	107	—½
5% "A"	123	106½	115	—½
4½% "T.F.A."	105	100½	103	—½
5% "B"	117½	102	103	—
"C"	84	63½	32	+½
MERSEY				
Ord.	24½	17½	20½	—
4% Perp. Deb.	93½	88½	89	—
3% Perp. Deb.	77	65½	59½	—
3% Perp. Pref.	55	49½	54½	—
IRELAND				
BELFAST & C.D.				
Ord.	6	3	4	—
G. NORTHERN				
Ord.	6	2½	3	—
G. SOUTHERN				
Ord.	13½	8	5	—
Pref.	26	10	13	+½
Guar.	40½	22	16	—
Deb.	57	45½	42	—

Irish Traffic Returns

IRELAND		Totals for 47th Week			Totals to Date		
		1940	1939	Inc. or Dec.	1940	1939	Inc. or Dec.
		£	£	£	£	£	£
Belfast & C.D. (80 miles)	pass.	2,508	2,002	+ 506	153,504	123,012	+ 30,492
	goods	1,187	582	+ 605	30,763	22,414	+ 8,349
	total	3,695	2,584	+ 1,111	184,267	145,426	+ 38,841
Great Northern (543 miles)	pass.	10,900	9,200	+ 1,700	577,950	532,850	+ 45,100
	goods	16,100	14,050	+ 2,050	630,750	524,350	+ 106,400
	total	27,000	23,250	+ 3,750	1,208,700	1,057,200	+ 151,500
Great Southern (2,076 miles)	pass.	28,018	27,239	+ 779	1,663,170	1,737,948	- 74,778
	goods	64,119	62,361	+ 1,758	2,266,279	2,143,978	+ 122,301
	total	92,137	89,600	+ 2,537	3,929,449	3,881,926	+ 47,523
L.M.S.R. (N.C.C.) (247 miles)	pass.	5,510	4,300	+ 1,210	269,070	222,260	+ 46,810
	goods	5,320	3,530	+ 1,790	200,070	144,450	+ 55,620
	total	10,830	7,830	+ 3,000	469,140	366,710	+ 102,430

Railway Stock Market

Business in most sections of the Stock Exchange has been on a modest scale, but British Funds and other high-class investments commanded increased attention and made higher prices. Many securities have remained in very short supply, and, therefore, tend to move sharply in price on only moderate buying or selling. Home railway prior-charges continued to be firmly held, and despite the absence of further improvement in demand, a good tone was in evidence. On the other hand, sentiment in regard to the junior issues was affected by the news that application for another increase in rates and fares will be necessary. It is hoped that a satisfactory arrangement in regard to the question of rising costs will form part of the amended financial agreement between the Government and the railways, which, however, is not expected until the early part of the new year. The terms of the Bill providing for insurance against damage caused by air raids may also have an important bearing on the amended agreement, and the air-raid damage Bill is not expected to be introduced until after Christmas. The market remains confident that results of the main-line railways for 1940 will permit maintenance of dividends on junior

stocks at the rates which ruled for 1939, and on this basis yields are, of course, very attractive. Nevertheless, it must be expected that the chief factor governing the trend in railway stocks will be the prevailing conditions on the Stock Exchange.

London Transport "C" stock continued to attract rather more attention, and further improved to 32½, a gain of one-and-a-half points; Metropolitan Assented was marked up from 41 to 44. Movements in other directions have been small. Great Western ordinary at 33½ was unchanged on the week, but the preference stock was a point better at 84½, and the guaranteed stock was fractionally higher at 111½. Great Western 4 per cent. debentures were maintained at 105. Among L.N.E.R. issues the first guaranteed was 74, compared with 73½ a week ago, and the second guaranteed moved up a point to 61. On the other hand, the first and second preference stocks were unchanged at 33½ and 11½ respectively. L.N.E.R. 3 per cent. debentures at 70 and the 4 per cent. debentures at 93 also had the same prices as a week ago.

L.M.S.R. senior preference improved to 51, which compares with 50½ a week ago,

and the 1923 preference remained at 37½. The guaranteed stock was fractionally better at 84, but the 4 per cent. debentures made the slightly lower price of 98½. L.M.S.R. ordinary stock at 14½ was unchanged on balance. Elsewhere, Southern preferred remained steady at 46, there being general expectations that the full 5 per cent. dividend will be paid for the year. Southern deferred kept at 10½. Whereas the guaranteed stock was unchanged at 110½, the preference stock made the slightly higher price of 83½, and the 4 per cent. debentures also gained half a point, and were 102.

As was to be expected, most foreign railway securities were dull and inactive in accordance with the general tendency on the Stock Exchange. Argentine railway issues, although very little changed in price, were inclined to be firmer on the B.A. Gt. Southern annual results, which were better than had been expected in some quarters, bearing in mind the conditions ruling. San Paulo ordinary stock was easier at 28½, but elsewhere, few movements were recorded. Various Indian railway securities made higher prices. Canadian Pacific debentures were better at 91; the preference stock was 44½.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

	Railways	Miles open 1939-40	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffic to Date			Shares or Stock	Prices					
				Total this year	Inc. or Dec. compared with 1939		Totals		Increase or Decrease		Highest 1939	Lowest 1939	Dec. 3, 1940	Yield % (See Note)		
							This Year	Last Year								
South & Central America	Antofagasta (Chili) & Bolivia	834	24.11.40	£ 21,530	—	£ 390	47	£ 800,850	£ 648,200	+	£ 152,650	Ord. Stk.	10½	4½	5½	Nil
	Argentine North Eastern	753	23.11.40	ps. 139,700	+	ps. 4,500	21	ps. 3,532,300	ps. 3,565,500	-	ps. 33,200	7 p.c. Deb.	4½	2	2	Nil
	Bolivar	174	Oct. 1940	3,180	-	1,320	43	39,150	42,850	-	3,700	Bonds	5½	4½	6½	Nil
	Brazil	2,801	16.11.40	ps. 1,173,000	-	ps. 30,000	20	ps. 22,382,000	ps. 24,188,000	-	ps. 1,806,000	Ord. Stk.	5½	2	2½	Nil
	Buenos Ayres & Pacific	190	12.10.40	86,200	-	815,600	15	\$1,452,600	\$1,736,900	-	\$284,300	Ord. Stk.	13½	4½	5	Nil
	Buenos Aires Gr. Southern	5,082	23.11.40	ps. 2,185,000	-	ps. 151,000	21	ps. 39,776,000	ps. 41,468,000	-	ps. 1,692,000	Ord. Stk.	10½	4	3½	Nil
	Buenos Ayres Western	1,930	23.11.40	ps. 857,000	-	ps. 37,000	21	ps. 13,680,000	ps. 15,003,000	-	ps. 1,323,000	Ord. Stk.	11½	4	3	Nil
	Central Argentine	3,700	23.11.40	ps. 1,408,350	-	ps. 354,950	21	ps. 29,105,900	ps. 39,880,350	-	ps. 10,774,450	Ord. Stk.	11½	4	2	Nil
	De	972	23.11.40	26,213	+	730	21	415,189	372,458	+	42,731	Ord. Stk.	2½	1½	1½	Nil
	Cent. Uruguay of M. Video	188	May 1940	17,282	-	7,020	48	193,339	245,516	-	52,177	Ord. Stk.	24½	18	17½	1½
	Costa Rica	70	Oct. 1940	11,700	-	1,300	43	122,400	136,700	-	14,300	1 Mt. Db.	104½	102	98	6½
	Entre Rios	810	23.11.40	ps. 207,300	+	ps. 13,700	21	ps. 4,857,700	ps. 5,395,100	-	ps. 537,400	Ord. Stk.	6	3	1½	Nil
	Great Western of Brazil	1,016	23.11.40	14,700	+	400	47	485,400	409,100	+	76,300	Ord. Sh.	3/-	1/2½	1½	Nil
	International of Cl. Amer.	794	Sept. 1940	\$325,789	-	\$37,196	39	\$4,405,419	\$4,486,381	-	\$80,962	1st Pref.	7½d.	7½d.	1	Nil
	Interoceanic of Mexico	22½	Oct. 1940	6,795	+	1,180	43	67,095	60,725	+	6,370	Ord. Pref.	2½	1½	1½	Nil
	La Guaira & Caracas	1,918	19.10.40	27,288	+	3,141	42	961,659	868,452	+	93,207	Ord. Stk.	1½	1	1	Nil
	Leopoldina	483	30.9.40	ps. 425,800	+	ps. 21,600	13	ps. 3,539,400	ps. 2,682,800	-	ps. 143,400	Ord. Stk.	1½	1	1	Nil
	Mexican	319	Sept. 1940	11,468	+	2,820	13	32,831	26,138	+	6,693	Ord. Sh.	2½	1½	1½	7½
	Midland of Uruguay	386	15.11.40	8,226	+	1,330	45	154,897	105,095	+	49,802	Ord. Sh.	45½	36	38	15½
	Nitrate	274	23.11.40	\$2,539,000	-	\$981,000	21	\$70,890,000	\$67,797,000	+	\$3,093,000	Pr. Lt. Stk.	1½	1½	1½	Nil
	Paraguay Central	1,059	Oct. 1940	56,878	+	4,393	17	265,325	254,699	+	10,626	Pref.	104½	92	90	15½
	Peruvian Corporation	1,000	5.10.40	7,548	+	627	14	€125,552	€137,472	+	€11,920	Ord. Stk.	38	20	28	8½
	Salvador	153½	17.11.40	30,625	-	1,910	46	1,661,202	1,505,397	+	155,805	Ord. Sh.	2	6/6	1	9½
	San Paulo	160	Sept. 1940	2,175	+	1,435	13	6,725	4,425	+	2,300	Ord. Stk.	2	1	1	Nil
	Talita	1,353	23.11.40	13,511	-	1,860	21	316,663	364,859	-	48,196	Ord. Stk.	—	—	—	—
	United of Havana	73	Sept. 1940	970	-	63	13	2,870	2,683	+	187	—	—	—	—	—
Canada	Uruguay Northern	23,695	21.11.40	1,022,931	+	55,301	47	43,320,703	35,653,734	+	7,666,969	—	—	—	—	—
	Canadian National	—	—	—	—	—	—	—	—	—	4 p.c.	Perp. Dbs.	74½	60	74	5½
	Canadian Northern	—	—	—	—	—	—	—	—	—	4 p.c. Gar.	100½	76	102	3½	
	Grand Trunk	17,153	21.11.40	696,200	-	37,400	47	29,864,600	26,558,600	+	3,306,000	Ord. Stk.	7½	3½	5½	Nil
India	Canadian Pacific	1,329	30.4.40	45,187	+	6,529	4	135,060	120,437	+	14,623	Ord. Stk.	76½	60	77½	3½
	Assam Bengal	202	10.10.40	3,427	+	1,350	27	78,052	61,402	+	16,650	Ord. Stk.	277	229½	247½	6½
	Barsi Light	2,091	Oct. 1940	235,425	+	35,048	4	235,425	200,377	+	35,048	Ord. Stk.	91	84½	212½	3½
	Bengal & North Western	161	Sept. 1940	14,625	+	508	26	78,405	66,243	+	12,162	Ord. Stk.	94½	83½	92½	4½
	Bengal Doars & Extension	3,269	30.9.40	245,025	+	23,588	26	4,212,552	3,841,155	+	371,397	Ord. Stk.	108	90	105	5½
	Bombay	2,986	20.11.40	289,725	+	44,250	32	6,111,975	5,424,075	+	687,900	Ord. Stk.	104½	92	99½	7½
	Bombay, Baroda & Cl. India	2,967	10.10.40	154,575	+	28,906	27	3,142,314	3,028,675	+	113,639	Ord. Stk.	280	263	250	6½
	Madras & Southern Mahratta	571	Oct. 1940	43,500	+	5,745	4	43,500	37,755	+	5,745	Ord. Stk.	102½	88	84½	5½
	Rohilkund & Kumaon	2,542	20.9.40	136,055	+	20,352	24	2,151,266	1,982,691	+	168,575	Ord. Stk.	—	—	—	—
	South Indian	204	Sept. 1940	73,186	—	—	52	905,968	—	—	—	—	—	—	—	—
Various	Egyptian Delta	623	10.9.40	5,329	+	271	23	76,582	83,648	-	7,066	Prf. Sh.	½	½	½	Nil
	Kenya & Uganda	1,625	—	—	—	—	—	—	—	—	—	B. Deb.	55	39	47½	7½
	Manila	277	July 1940	11,397	+	139	4	11,397	11,258	+	139	Inc. Deb.	91½	87½	82½	4½
	Midland of W. Australia	1,900	31.8.40	27,727	+	3,258	22	783,893	601,488	+	182,405	—	—	—	—	—
	Nigerian	2,442	Sept. 1940	482,182	—	—	52	4,910,860	—	—	—	—	—	—	—	—
	Rhodesia	13,287	2.11.40	708,225	+	58,224	31	21,069,160	20,020,323	+	1,048,837	—	—	—	—	—
	South Africa	4,774	July 1940	868,428	+	183,538	4	868,428	684,890	+	183,538	—	—	—	—	—
	Victoria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current prices and are within a fraction of ½. Argentine traffic is now given in pesos
 * Quotation is of June 17, 1940; dealings subsequently prohibited
 † Receipts are calculated @ 1s. 6d. to the rupee